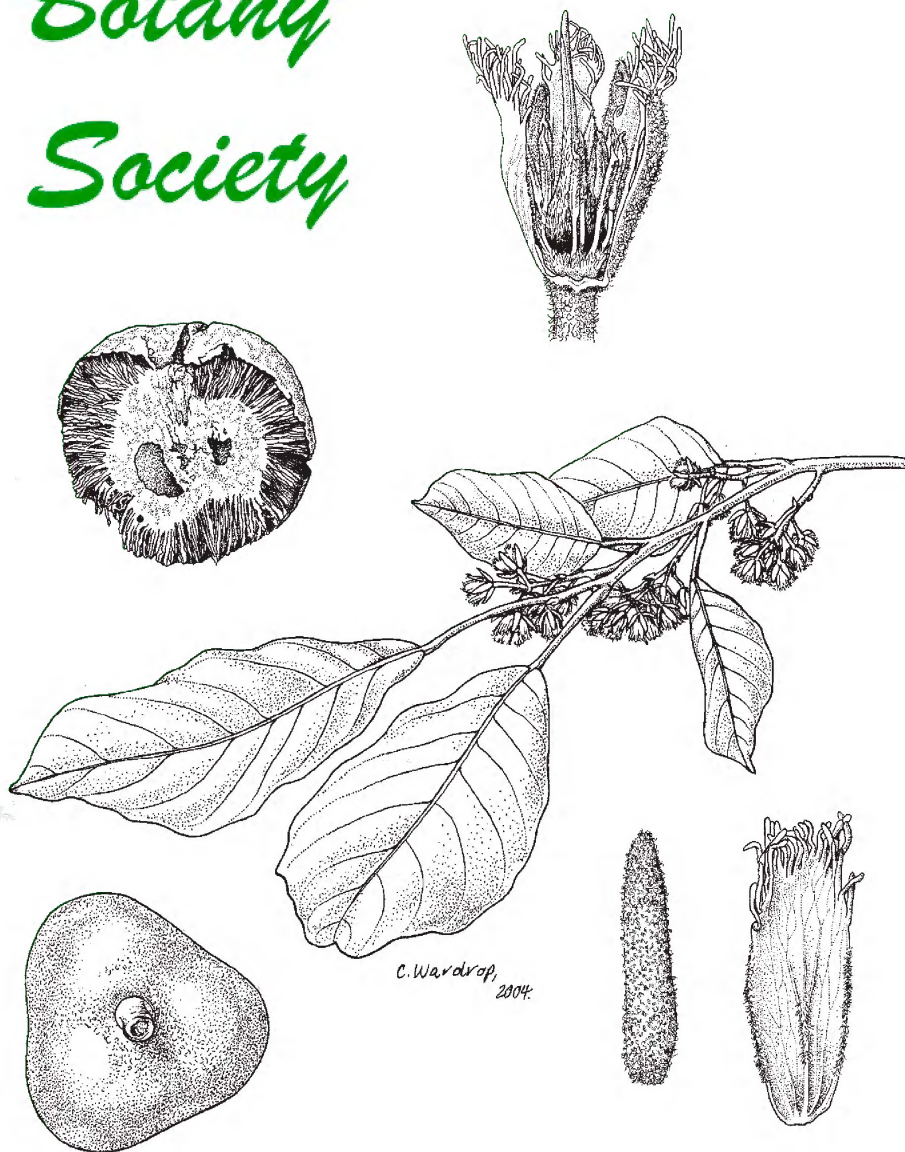


# ASBS

*Australasian  
Systematic  
Botany  
Society*



## Newsletter

No. 173 December 2017

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# AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

## Council

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## Other constitutional bodies

### Hansjörg Eichler Research Committee

David Glenny  
Sarah Mathews  
Heidi Meudt  
Joanne Birch  
Katharina Schulte  
Murray Henwood  
Chair: Dan Murphy, Vice President, *ex officio*  
*Grant application closing dates*  
Hansjörg Eichler Research Fund:  
on March 14<sup>th</sup> and September 14<sup>th</sup> each year.  
Marlies Eichler Postdoctoral Fellowship:  
on July 31<sup>st</sup> each year.

### Public Officer

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Email: [murray@anbg.gov.au](mailto:murray@anbg.gov.au)

### Affiliate Society

Papua New Guinea Botanical Society

### Advisory Standing Committees

#### Financial

Patrick Brownsey  
David Cantrill  
Bob Hill  
Ad hoc adviser to Committee: Bruce Evans  
Chair: Matt Renner, Treasurer, *ex officio*

#### Grants Policy

Gillian Brown  
Alexander Schmidt-Lebuhn  
Jen Tate (Council)  
Peter Weston  
Peter Wilson  
Chair: Daniel Murphy, Vice President, *ex officio*

## Web presence

### ASBS Facebook Group

Viewable currently to any member of Facebook;  
permission to post by application to administrators.

#### Administrators

Todd McLay, email: [todd.mclay@gmail.com](mailto:todd.mclay@gmail.com)  
Mike Bayly, email: [mbayly@unimelb.edu.au](mailto:mbayly@unimelb.edu.au)

### Cover image: *Elaeocarpus sedentarius* Maynard & Crayn.

Leafy twig with clockwise from top: open flower, petal,  
sepal, proximal end of fruit, longitudinally sectioned fruit.  
Artist: Catherine Wardrop (NSW). With permission of  
CSIRO Publishing.

### *Publication dates of previous issue*

*Australas. Syst. Bot. Soc. Newslett.* 172 (Sep 2017)  
ASBS Web site: 9 Nov 2017. Printed version: 16 Nov 2017.



## ASBS Inc. business

### In this issue

The following minutes and associated reports of the AGM make up a large part of this issue. We have deferred reporting on the new Nancy Burbidge Medallist Patrick Brownsey till the next issue.

#### The new ASBS Council

The makeup of our new ASBS Council was announced at the Society's Annual General Meeting in Adelaide in November (Fig.; p. 3).

### New Year actions for members

We provide notices for:

- Call for comment by January 31<sup>st</sup> on the Exposure Draft of the Decadal Plan for Taxonomy and Biosystematics (p. 30 );
- Applications for Hansjörg Eichler Research Grants by March 14<sup>th</sup> (p. 15); and
- ASBS Membership fees now due (below).

Happy New Year!

The Editors



Fig. ASBS Councils of 2017 and 2018 at the *Systematics 2017* conference in Adelaide. From left, Ryonen Butcher (Councillor in both), John Clarkson (retiring 2017 Treasurer), Jen Tate (Secretary in both), Matt Renner (Councillor in 2017, Treasurer in 2018), and Darren Crayn and Dan Murphy the respective President and Vice-President in both terms. Missing is newly elected Councillor Heidi Meudt. Ph. J. Clarkson

## *Australasian Systematic Botany Society Inc.*

### 2018 Membership Fees

These are due on January 1<sup>st</sup> each year.

*Subscription rates:*

Ordinary/Institutional members \$45 (AUS)

Full-time students / retired / unemployed \$25 (AUS)

**This is also an opportunity to donate to the Research Fund.**

*Prospective Members* need to download a membership form from the membership section of the ASBS web site.

*Please direct enquiries* to Treasurer Matt Renner at [treasurer.asbs@gmail.com](mailto:treasurer.asbs@gmail.com)



## Australasian Systematic Botany Society Inc. Minutes of Annual General Meeting 2017

**Venue:** Horace Lamb lecture theatre,  
University of Adelaide, Adelaide, Australia

**Date:** Tuesday 28 November 2017

**Meeting opened** [3:37 pm]

**Chair:** Darren Crayn, ASBS President (DC)

### **Attendance**

49 members; all 2017 Council members.

### **Agenda**

- Welcome and apologies
- Confirmation of Agenda
- Minutes of Previous AGM and business arising from the minutes
- Correspondence and business arising from the correspondence
- Reports
  - President
  - Treasurer (incl. Financial Advisory Standing Committee)
  - Newsletter
  - Webpage
  - Facebook
  - Research Committee Report and Eichler presentation
  - Grants Policy Standing Committee
- General Business
- Election of Council Officers
- Announcement concerning next conference and AGM
- Close of meeting

### **Proceedings**

1. DC welcomed members to the meeting and accepted apologies from Jeremy Bruhl, Pam Catcheside, and Karen Wilson
2. DC confirmed the agenda
3. DC noted that the minutes of the previous AGM were published in the *ASBS Newsletter* #168–169 (Sept-Dec 2016) – proposal that the minutes be accepted moved by Peter Jobson, seconded Michelle Waycott.
4. DC noted there was no correspondence.

### 5. Reports

- a) *President's Report* – Darren Crayn (DC)  
– see Appendix 1.

DC presented the President's report – in brief, the Society is in a very healthy position. DC thanked John Clarkson for looking after the books so well and thanked him on behalf of the Society for his long service as he steps down as Treasurer. Membership has grown to 331 members. DC thanked Bill and Robyn Barker for their efforts on publishing the newsletter as they continue to assemble an impressive publication. The Facebook group continues to grow – thanks to Mike Bayly and Todd McLay for invigilating the site. Two major initiatives were progressed this past year: the Marlies Eichler Postdoctoral Fellowship, and the Decadal Plan for Taxonomy and Systematics. DC thanked previous Councils, as well as the Grants Policy Advisory Committee chaired by Mike Bayly for their efforts in making the Marlies Eichler Fellowship happen. The Society is deeply involved with the Decadal Plan including by providing some financial support, and this initiative has made significant progress this year. The Hansjörg Eichler Grants Scheme continues to support student research, with five awards made this year. DC indicated that Council will consider new potential initiatives that might reflect our society of today.

DC thanked current Council - John Clarkson, Matt Renner, Ryonen Butcher, Dan Murphy, and Jen Tate - for their service this past year.

DC tabled President's report: moved Juliet Wege, seconded Kelly Shepherd.

- b) *Treasurer's Report* – John Clarkson (JC)  
– see Appendix 2.

JC tabled the Treasurer's report and financial accounts.

JC noted 25 new members joined in the past year, 14 of those students. New members are always welcome and the Facebook group with more than 800 members represents a



good target for recruitment. There remain a number of unfinancial members on the books; chasing membership renewals continues to be a challenge for the Treasurer. JC reported on the general fund and research fund balances and expenditures. JC outlined a new strategy for investment funds and thanked the members of the Financial Advisory Standing Committee for their advice in formulating this strategy.

Financial report moved JC, seconded Peter Wilson.

c) *Newsletter Report* – Bill and Robyn Barker – see Appendix 3.

Bill and Robyn Barker presented a summary of newsletters published during the year.

Please send in news from different areas!

d) *Website Report* – Anna Monro – see Appendix 4.

Report prepared by Anna Monro – newsletter loaded up and most hits occurred around newsletter time.

DC thanked Anna Monro and Murray Fagg for supporting the Society by maintaining the website.

e) *Facebook Report* – Todd McLay – see Appendix 5.

Todd McLay presented data on Facebook website – now up to 801 members. Todd and Mike Bayly vet new members and invigilate posts – no major issues reported for the year.

f) *Research Committee Report* –

Dan Murphy (DM) – see Appendix 6.

DM thanked the members of the Research Committee. DM outlined the new Marlies Eichler Postdoctoral Fellowship and announced the winner – Dr Bee Gunn, Royal Botanic Gardens Victoria and The University of Melbourne. Project: ‘Evolution of polyploidy in Australian Asparagales.’ DM noted that due to a conflict of interest he did not Chair the Research Committee for this inaugural round - Darren Crayn fulfilled this role instead.

Hansjorg Eichler grants for 2017: three were awarded in the March round (previously announced) and the two awarded in September round were announced and presented with their cheques: Nicole Foster and Elizabeth Joyce.

Dan Murphy tabled the Research Committee report: moved Michelle Waycott, seconded Kelly Shepherd.

g) *Grants Policy Standing Committee* - DC

DC reported there was no report from this standing committee for the year as, during the implementation phase of the new Marlies Eichler Postdoctoral Fellowship, it did not have cause to meet.

## 6. *General Business*

Russell Barrett floated an idea for a Society project - to revisit sites collected by Banks and Solander and publish a book about their collections in the 250<sup>th</sup> anniversary year (2020). Michelle Waycott indicated that many herbaria and institutions in New Zealand and Australia are planning special events also.

DC handed out student travel awards: Tim Collins, Tim Hammer, Yelarny Beer, Keelin Smith, Vera Korasidis, and Allison Merten.

Anthony Whalen indicated that ABRS has a travel bursary available as well for folks to consider.

## 7. *Election of Council Officers*

JT outlined the nominees for the six Council positions. Each of the Executive positions had a single nominee and three outstanding candidates nominated for the two available Councillor positions. Where nominees exceed vacancies the rules of the Society require a ballot. An online voting system was trialled, which JT felt worked well (and on which she invites feedback): 116 members voted by the online voting system (through surveymonkey), 6 ballot papers were returned by email, and 1 by snail mail. JT encouraged members to nominate for Council in the future and actively participate in the Society and/or to volunteer for its committees.

### *Council for 2017–2018:*

Darren Crayn – President

Dan Murphy – Vice-President

Matt Renner – Treasurer

Jen Tate – Secretary

Ryonen Butcher – Councillor

Heidi Meudt – Councillor

## 8. *Announcement concerning next conference and AGM*

The 2018 ASBS Conference will be in Brisbane with the AGM held during that



week. It will likely be early December with details about the time and venue forthcoming from the organizing committee (Gill Brown, Paul Forster, Andrew Rozefelds).

9. DC thanked everyone for attending and thanked Michelle Waycott and organizers

for their efforts in delivering an excellent conference.

10. Meeting closed: 4:45 pm

Council-approved minutes  
by Jennifer Tate, ASBS Secretary

## Appendix 1. ASBS President's report

Nearing the close of 2017, and in its 45<sup>th</sup> year, the ASBS remains in a strong position.

In the financial year ending June 30 2017 income to the General Fund exceeded outgoings by over \$5000, and by \$2000 for the Research Fund. These are solid numbers particularly in the light of several new initiatives undertaken in 2017, and indicate the Society is financially well managed and continues to improve its position. On behalf of the members I thank John Clarkson for his stewardship of the treasury.

### Communications

*The Newsletter* continues to keep members up to date with happenings among the membership and in the broader world of plant systematics. Four issues have appeared since the last conference, the first of these a double issue. The editors, Bill and Robyn Barker, keep on chugging away at producing great newsletters. Their contributions are gratefully acknowledged, particularly in view of personal difficulties encountered this year. More good copy is always welcome and members are encouraged to share any relevant news through the Newsletter.

*FaceBook* – The ASBS Facebook group has grown consistently to now have 801 members (153 joining in the last year) including many non-members. Discussions are almost universally factual and convivial, and serve to promote the Society and keep members in touch with other enthusiasts. Mike Bayly and Todd McLay are thanked for invigilating posts and membership requests.

Two very significant initiatives have been launched or facilitated by the Society this year: the Decadal Plan for Taxonomy and Systematics, and the Marlies Eichler Postdoctoral Fellowship.

### Decadal Plan for Taxonomy and Systematics

The Society will contribute \$15,000 cash over three years to this important initiative. These funds have helped leverage \$260,000 from the Ian Potter Foundation, and a further \$98,000 cash and \$372,000 in kind from other partners.

The main round of community consultation has been completed via 'town hall' style meetings, and a draft of the Plan (sans some key figures such as budget etc.) has been prepared for exposure soon after this conference. This will generate a further round of engagement and refinement of the Plan, with the final version to be launched in March 2018. Kevin Thiele has done a great job in leading this initiative, and his contribution cannot be understated. Commendable too has been the enthusiasm with which our community and our stakeholders have engaged with the process.

It remains to be seen to what degree the Plan creates a step change in systematics capacity in Australasia. Certainly, some in our community have expressed a view that this is a throw of the dice with very long odds, and that it is likely to meet with the same lack of success as similar initiatives in other countries. But I have personally seen that as the Plan has developed, and as our community has become more engaged in the process especially through the 'Town Hall' meeting roadshow, that this already minority view has further eroded. Systematists are getting on board and daring to imagine a better world. A groundswell of support such as this does not guarantee success, but a lack of it would guarantee failure.

Regardless of any concrete resourcing outcomes from the Plan, it is my view that sociologically the initiative has already succeeded. We, a community of scholars



trained to rigorously challenge both new and entrenched ideas, are converging on a shared vision of our collective future, and starting to speak with a single voice, independent of our jurisdictional, institutional or taxonomic belonging. That this convergence is being achieved through discussion and debate means the final position is owned by all of us, and we are more likely to defend it. There can be no better predictor of success than unity behind common purpose and for this reason I remain profoundly optimistic about the Plan's impact. But should it dislodge no significant sector-wide resources in the short term, we will at the least have a framework to guide decadal planning at the individual or institutional level, and to anchor and contextualize bids for incremental funding.

### **Grant Schemes**

This year has seen the Society achieve a major new initiative, enabled by a substantial bequest from Marlies Eichler, in support of its early career members and the future of our discipline: the launch of the Marlies Eichler Postdoctoral Fellowship. This significant new grant of up to \$10,000 per annum adds to the suite of financial offerings which in total distribute at least \$35,000 annually to the Society's early career members. The inaugural Marlies Eichler Postdoctoral Fellow is Dr Bee Gunn (University of Melbourne and Royal Botanic Gardens, Victoria).

A great deal of work went into the design and implementation of this scheme for which the members of the Grants Policy Committee and the former and current Chairs Mike Bayly and Dan Murphy are warmly thanked. The applications in this first round were of high quality but few in number, perhaps to be expected in the inaugural year of such a scheme.

The Hansjörg Eichler Awards continue to be keenly contested and this year five awards were made totaling \$20,172. Congratulations to the successful applicants.

The expertise and enthusiasm of the Research Committee chaired by Dan Murphy, which assesses the Marlies Eichler and Hansjörg Eichler grant schemes, is gratefully acknowledged.

### **Council**

At the close of the AGM we bid farewell to Society stalwart John Clarkson who has completed six consecutive years on Council, the maximum allowable under the Rules. John's relationship with the Society has been deep and long standing since before his first Council role as Councillor in 1993. His life membership of the Society is recognition of his contribution over many years, including stints in all Council roles. No doubt we will continue to consult him on relevant matters over the coming years, and sincerely hope he does not entirely disarticulate himself from our business. History would suggest this is unlikely.

The incoming Treasurer, Matt Renner, is warmly welcomed into what is one of Council's busiest and perhaps most important roles. I have no doubt Matt will ably guard the Society's coffers with a little advice from John in the early transitional stages. I also warmly welcome the new face on Council: Heidi Meudt from Te Papa. Heidi, together with Ryonen Butcher, was elected by the members in the recent 3-way ballot and both are congratulated on their success. Thanks are due to Jen Tate (Secretary) who ran the unprecedented electronic ballot with competence and efficiency.

All other Council members continue in their roles on the incoming Council over our 46<sup>th</sup> year and are welcomed back.

Finally, in closing it has been a joy and an honour to work with this collaborative and efficient Council. I think we have achieved a lot this past year, fully acknowledging the foundational work by previous Councils. Over the year ahead, the 3<sup>rd</sup> and last of my Presidency, I hope Council can make substantial progress on the following priority issues.

*Branding.* How we present ourselves to the world is important to attracting and retaining members, and exciting the broader public about the work that we do. The Society's branding is now 45 years old, and while it has served us very well, we now are a very different Society and it may be time

to consider updating our branding to better reflect changes in our science, membership demographics and geographical footprint, while of course recognising our history.

*Regional Engagement.* Australasia is not just Australia and New Zealand and many of our members and their institutions have strong and deep relationships with others in New Guinea, New Caledonia and Fiji for example. Can we better engage with our regional

neighbours to further the cause of plant systematics beyond our immediate shores?

*Delivering the Decadal Plan* and implementing its agenda.

*Supporting our students.* Our student members are literally our future and exploring ways to better support them is core business for the Society.

## Appendix 2. ASBS Treasurer's report, 2016/17

Presented at the Society's Annual General Meeting in Adelaide 28th November 2017

### 1. Introduction

I am pleased to present the financial statements of the Australasian Systematic Botany Society (ASBS) for the year ended 30 June 2017. The finances of the Society are run on a financial year basis with data reported on a full cash basis.

Brian Woods of DFK Kidsons audited the accounts for the sixth consecutive year. His report to members is appended as Fig. 2.

### 2. Membership

Table 1 records the number of members of ASBS at the beginning of November 2017. Late payment of subscriptions is a chronic problem although this year, despite some effort and several reminder notices, 30 members remained in arrears at the end of October, 10 months into the membership year. This is almost double the number at the same time last year. Unpaid fees total \$1,030.

Since the last AGM was held in September 2016, 12 members have resigned and 25 new members have been admitted to the Society.

Membership numbers have remained reasonably stable for the past 5 years. However it is interesting to note that the number of members of the ASBS Facebook Group continue to grow and currently outnumber members of the Society by 2.5:1.

The following new members have been welcomed to the Society since the last AGM:

Rose Andrew, Armidale, NSW  
 Frank Bedon, Epping, Vic.  
 Amelia-Grace Boxshall, Frankston, Vic.  
 Christopher Brodie, Teringie, SA  
 Matilda Brown, New Town, Tas.  
 Ainsley Calladine, Klemzig, SA  
 Richard Dimon, Grays Point, NSW  
 Kerry Ford, Lincoln, NZ  
 Nicole Foster, Greenwith, SA  
 Victoria Hardingham, Indooroopilly, Qld  
 Travis Heafield, Bacchus Marsh, Vic.  
 Shelley James, Sydney, NSW  
 Alex Kenins, Boronia Heights, Qld  
 Vera Korasidis, Park Orchards, Vic.  
 Jason Lewis, East Maitland, NSW  
 Chapa Manawaduge, Kelvin Grove, Qld  
 Udayangani Mawalagedera, Burwood, Vic.  
 Allison Mertin, Keiraville, NSW  
 Lars Nauheimer, Kamerunga, Qld  
 Patricio Saldivia Perez, Dunedin, NZ  
 Thomas Sayers, Prahran, Vic.  
 Keelin Smith, Duncraig, WA

**Table 1.** Membership of ASBS as of 9<sup>th</sup> November 2017 (non-financial members in brackets)

Fee	Full	Concessional	Gratis	Total
Ordinary	185 (14)	n/a	0	185 (14)
Student	n/a	57 (10)	0	57 (10)
Retiree	n/a	58 (3)	0	58 (3)
Unemployed	n/a	9 (3)	0	9 (3)
Institutional	5 (0)	n/a	14	19 (0)
Life	n/a	n/a	3	3 (0)
<b>Total</b>	<b>190 (14)</b>	<b>123 (16)</b>	<b>17</b>	<b>331 (30)</b>



Philip Smith, Edge Hill, Qld  
Haylee Weaver, Canberra, ACT  
Robert White, Holt, ACT

Interestingly, while gender balance of people joining the Society was roughly equal, new female student members outnumbered males 6:4 reinforcing the bias towards female post graduate students in universities in Australia and New Zealand. Currently, 61% of student members are women.

### **3. Management of Funds**

The Society's funds continue to be managed in two clearly defined sets of accounts – the General Fund and the Research Fund. Following Council's adoption of the Grants Policy Standing Committee's recommendations for an expanded grants program, a new investment strategy was developed for the Research Fund with the help of the Financial Advisory Standing Committee. These changes are fully explained below.

### **4. General Fund**

At the end of the 2016/17, all assets in the General Fund were held as cash at call. A small amount required for day to day needs was held in a cheque account with the Commonwealth Bank and the balance in a high interest earning account with RaboDirect. Interest payable on funds in the RaboDirect account has been falling steadily over the years. Rates were as high as 8% when the account was opened in 2007 but are now only 1.7% and still falling. Council authorised the transfer of a significant portion of these funds to two new term deposits with RaboDirect. These will show in next year's financial statement.

#### **4.1 General Fund Income**

There are some significant differences between the figures for 2016 and 2017 that might need some explanation.

Income from conferences is significantly higher this year for two reasons. All payments related to the 2016 conference in Alice Springs were processed through the General Account. Once all accounts were paid this conference realised a profit of \$2,671. Coupled with this was a profit of \$8,360 from the conference

held in Canberra in 2015. Profits such as this allow the Society to occasionally risk hosting conferences in smaller outlying centres where there is a possibility of running at a loss.

Like most funding bodies, the Nature Conservancy releases funds in instalments. This year's receipt of \$13,000 is the final progress payment. The three year agreement has expired and, as Dan Murphy pointed out in his 2016 Research Grants Report, has not been renewed.

In the 2015/16 financial year, the Marlies Eichler bequest was transferred from the General Fund to the Research Fund. Part of the \$30,093 investment income reported for 2016 represented interest accrued on the term deposit before the funds were transferred.

In recent years the number of members making donations to the Research Fund has been steadily increasing. The 10 year average from 2007 to 2016 is 52 and the largest in that time 62 in 2013. This year 70 members have made donations. As the donations are usually received with membership payments, it is convenient to bank these in the General Fund and transfer a lump sum to the Research Fund just prior to the end of the financial year.

The \$1,209 sundry income is something of a windfall. During the year, Council cautiously responded to an enquiry from the Copyright Agency who wrote to say that they held funds payable to the Society for use of material in the Newsletter. The payments received extended back over several years.

#### **4.2 General Fund Expenditure**

The major component of the bank fee is the charge for operating the credit card facility. Council made an unsuccessful attempt to have the transaction fee reduced. Members opting to make payments by electronic transfer, save the Society part of this cost. However, Council remains willing to maintain the credit card facility for the convenience of members.

Council remains committed to providing student members who attend annual ASBS conferences with some financial support provided they present a talk or poster. Last year, 7 students who presented at the conference in Alice Springs received \$200 each. This was equivalent to the student



earlybird registration fee. The figure here also includes support for the Burbidge Medal recipient to travel to Alice Springs and a \$2,500 cash advance to the 2017 Adelaide conference.

Newsletter costs include printing 3 issues and postage of 1 issue. Just under one third (29%) of members choose to receive their Newsletter in hard copy. Depending on the number of pages, printing and postage costs between \$750 and \$850 per issue.

There is a requirement in the Rules of the Society that 4 Council members, or members elect, must

be present as part of the quorum for an Annual General Meeting. Council has a long standing policy of providing some finances to assist Councillors who cannot secure institutional support from their employers attend these meetings. This also ensures that Councillors can attend the day-long Council meeting usually held in association with the AGM and meet a broad spectrum of members.

#### **4.3 Current Assets in the General Fund**

The General Fund finished the financial year with a surplus of \$5,133 and held assets of \$148,342.

### **5. The Hansjörg Eichler Research Fund**

Income to the Research Fund is derived from donations from members, income from funds invested and bequests. Grants made to students are the only expenditure.

Seventy members made donations to the Hansjörg Eichler Research Fund totalling \$3,440. All donors, including those who agreed to having their names recorded publicly (Table 2), are acknowledged for their generous support:

Darren Crayn announced in his President's Report to the last AGM that Council had ratified a new grants program increasing the Eichler Grants from a maximum of \$2,000 to \$5,000 and introduced a new funding opportunity for postdocs, the Marlies Eichler Postdoctoral Fellowship. The Fellowship is

**Table 2: Some of the 70 donors to the Hansjörg Eichler Research Fund**

Rose Andrew	Abdul Ghafoor	Heather Merrylees
Helen Aston	Laurie Haegi	Andrew Mitchell
Margaret Beal	Victoria Hardingham	Caroline Pannell
Frank Bedon	Frank Hemmings	Rosemary Purdie
Chris Betteridge	Alison Hewitt	Chris Quinn
Richard Boyne	Gareth Holmes	Carolyn Sandercoe
Barbara Briggs	John Hosking	Tanja Schuster
Hugh Burley	James Ingham	Kelly Shepherd
Christine Cargill	Betsy Jackes	Philip Short
John Clarkson	Laurie Jessup	Janice Swab
Trevor Clifford	Richard Jobson	Jen Tate
Margaret Corrick	Pauline Ladiges	Helen Thompson
Ian Cowie	Rob Lamont	John Thomson
Darren Crayn	Greg Leach	Stephen Van
Mike Crisp	Sarah Mathews	Leeuwen
Richard Dimon	Merran Matthews	Helen Vonow
Murray Fagg	Dirk McNicoll	
John Gardiner	David Meagher	

valued at \$10,000 per year for 2 years,. The new program will cost \$30,000 in the 2017/18 financial year and \$40,000 in subsequent years when 2 Fellowships are running concurrently. This will require an annual income of approximately 3.6% of the current capital and slightly more if the grants are to grow in line with inflation and the capital not be eroded over time.

A new strategy was developed with the assistance of the financial advisory standing committee and a financial planner from Commonwealth Financial Planning Ltd. This was submitted to Councillors for their consideration in April and approved for implementation. In the lead up to this each councillor completed a risk profile questionnaire that attempted to quantify the level of risk each was prepared to accept on behalf of the Society. Councillors' profiles were surprisingly similar and, not surprisingly, at the conservative end of the investment spectrum.

The new strategy involved cashing in the managed funds that had been in place since 1997 and pooling the \$337,028 realised with cash held in the Marlies Eichler bequest. \$70,000 of this was set aside in a Commonwealth Term Deposit to fund grants up to the end of 2018. Depending on donations received and interest earned, this might even extend to the first half of 2019. The balance, \$1,055,356, was used to purchase 949,915 units in Colonial First State



### FirstChoice Wholesale Investments.

The Colonial FirstChoice Conservative Fund has produced annual returns ranging from 4.33% to 5.92% over the past 10 years and an average of 5.59% since its inception in April 2002. The fund aims to produce relatively stable returns over the medium term with potential for some long-term capital growth. In order to deliver this, investments are spread across a range of asset classes and investment managers. The portfolio managers aim to hold around 70% of investments in cash and fixed interest and 30% in growth investments such as shares, property and securities (Fig. 1).

The portfolio can expect low to medium levels of short-term volatility and the likelihood of a negative return is 1 in every 13 years. My recommendation is to stay with this strategy for at least 5 to 6 years after which a future Council might be willing to accept a slightly higher risk profile and move to a diversified portfolio with a slightly stronger focus on growth.

One should exercise caution in speculating on future profits in these types of investments. Values can fall as rapidly as they rise. However, in not quite 6 months, the value

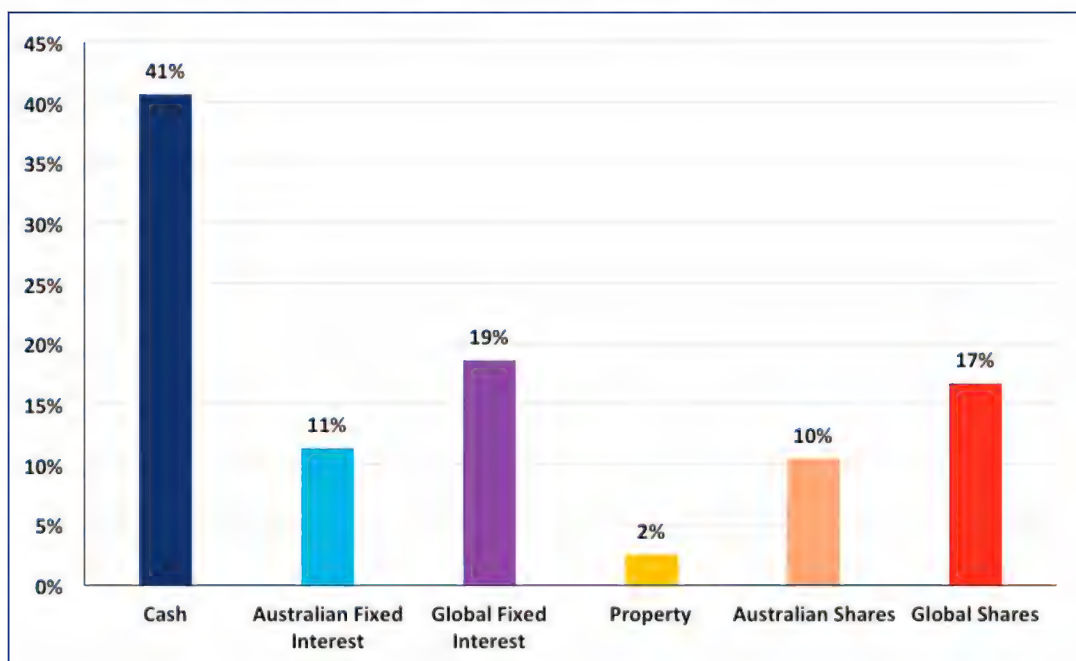
of the new investment increased by almost \$24,000. Projecting that to a full 12 months gives an income somewhere around \$50,000 which meets our investment target. As it will not be necessary to draw upon the fund until at least April 2019, I think we are on target to meet Council's needs to fund the research program.

A number of members have advised Council that they have nominated the Society as a beneficiary in their wills. Council thanks them for that while wishing them a long and happy life. A gift from your estate is a simple and effective way of making lasting provision for the people and causes you care about. If you include a gift for the Society in your will, please consider notifying the Secretary. Your personal information will be held in strictest confidence, and your anonymity maintained if you wish.

### 6. Summary

The Society remains in a very strong financial position. With expenditure from the General Fund being matched by income, no significant expenditure foreshadowed and ample cash reserves in hand, it should not be necessary to increase the subscription fee for the 2017 membership year.

Fig. 1. Investment summary for Colonial FirstChoice Conservative Fund.





DIRECTOR  
Brian Woods FCPA

## INDEPENDENT AUDITOR'S REPORT

### TO THE MEMBERS OF AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

#### Qualified Opinion

We have audited the financial report of Australasian Systematic Botany Society Incorporated (the Society), which comprises the statement of financial position as at 30 June 2017, council members' report, the income statement, notes to the financial statements, a summary of significant accounting policies, other explanatory notes and the statement by the members of the council.

In our opinion, except for the possible effects of the matters described in the *Basis for Qualified Opinion* section of our report, the accompanying financial report of the Australasian Systematic Botany Society Incorporated is in accordance with the accounting policies described in Note 1 to the financial statement, including:

- (a) Giving a true and fair view of the Society's financial position as at 30 June 2017 and of its performance for the year then ended; and
- (b) Complying with the Australian Accounting Standards (including the Australian Account Interpretations).

#### Basis for Qualified Audit Opinion – Limitation of Scope

Receipts from donations and membership subscriptions are a significant source of revenue for the Society. The Society has established controls in respect of the collection of donations and other fundraising activity revenue prior to entry in its financial records. However, it is impractical to establish complete control over the collection of cash donations and other fundraising activity cash revenue. Accordingly, our audit procedures for donations and other fundraising activity revenue had to be restricted to the amounts recorded in the financial records. Therefore, we are unable to express an opinion on whether donations and other fundraising activity revenue obtained by the Society are complete.

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of our report. We are independent of the Society in accordance with the auditor independence requirements of the ethical requirements of the Accounting Professional and Ethical Standards Boards' APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

*We make it happen!*



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Fig. 2: Auditor's report



A challenge facing Council in the coming financial year will be to turn its attention to the \$143,209 surplus in the General Fund to see how this might be used to promote the study of plant systematics

John Clarkson  
Treasurer  
November 2017

**AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED**  
**(An incorporated association)**  
**FINANCIAL REPORT**  
**FOR THE YEAR ENDED**  
**30 JUNE 2017**

**AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED**  
**COUNCIL MEMBERS' REPORT**

Your Council members submit the financial statement of the Australasian Systematic Botany Society Incorporated for the year ended 30 June 2017.

The names of the Council members who held office throughout the reporting period and at the date of this report are:

President	Darren Crayn	Elected November 2015
Vice President	Daniel Murphy	Elected November 2015
Secretary	Jennifer Tate	Elected September 2016
Secretary	Leon Perrie	Stood down September 2016
Treasurer	John Clarkson	Elected December 2013
Councillor	Ryonen Butcher	Elected September 2016
Councillor	Matt Renner	Elected September 2016
Councillor	Jennifer Tate	Stood down September 2016
Councillor	Michael Bayly	Stood down September 2016

The principal activities of the association during the reporting period were to promote systematic botany in Australasia.

No significant change in the nature of these activities occurred during the reporting period.

The operating results are as set out hereunder:

	Year ended June 2017	Year ended June 2016
	\$	\$
Research Fund	2,000	571,177
General Fund	5,133	(517,029)

Signed in accordance with a resolution of the members of the Council.

Darren Crayn (President)

John Clarkson (Treasurer)  
28<sup>th</sup> November 2017

**AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED**  
**INCOME STATEMENT**  
**FOR THE YEAR ENDED 30 JUNE 2017**

	<b>Note</b>	<b>2017</b>	<b>2016</b>
		\$	\$
<b>RESEARCH FUND</b>			
<b>Income</b>			
Donations to Research Fund		3,440	2,720
Transfer of Marlies Eichler Bequest from General Fund		-	562,800
Investment Income	2	25,502	20,359
<b>Total Income</b>		<b>28,942</b>	<b>585,879</b>
<b>Expenditure</b>			
Research Grants		19,892	14,672
Bank Charges		7,050	30
<b>Total Expenditure</b>		<b>26,942</b>	<b>14,702</b>
<b>Surplus</b>	3	<b>2,000</b>	<b>571,177</b>
<b>GENERAL FUND</b>			
<b>Income</b>			
Advertising in Newsletter		250	250
Conference		31,885	4,655
Australian Conservation Taxonomy Award		13,000	26,000
Investment Income	2	2,133	30,093
Subscriptions to ASBS Inc.		11,270	11,580
Donations to Eichler Fund		3,440	2,720
Sundry income		1,209	-
<b>Total Income</b>		<b>63,187</b>	<b>75,298</b>
<b>Expenditure</b>			
Australian Conservation Taxonomy Award		14,000	16,250
Auditor's remuneration		1,980	1,980
Bank fees, Credit card charge facility		977	350
Conference expenses including Student Grants		27,953	3,559
Newsletter expenses (printing, postage)		1,788	2,853
Registrar General returns		41	39
ASBS Council Travel (AGM, Special GM)		2,553	632
Decadal Plan		5,022	-
Miscellaneous expenses (e.g. postage)		300	1,144
Transfer donations to Research Fund		3,440	2,720
Transfer of Marlies Eichler Bequest to Research Fund		-	562,800
<b>Total Expenditure</b>		<b>58,054</b>	<b>592,327</b>
<b>Surplus</b>	3	<b>5,133</b>	<b>(517,029)</b>

The accompanying notes form part of these financial statements.



**AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED**  
**BALANCE SHEET**  
**AS AT 30 JUNE 2017**

	<b>Note</b>	<b>2017</b>	<b>2016</b>
		\$	\$
<b>ASSETS</b>			
Current Assets			
<b>RESEARCH FUND</b>			
Cash at Bank		12,388	7,265
Investments			
Colonial Managed Investment		-	104,304
Australian Bond & Growth Funds		-	218,365
Marlies Eichler Bequest		-	562,800
Commonwealth Term Deposit	4	60,000	223,897
Colonial Wholesale Investment	4	1,046,243	-
<b>Total Current Assets Research Fund</b>	3	<b>1,118,631</b>	<b>1,116,631</b>
<b>GENERAL FUND</b>			
Cheque Account		29,343	26,339
Savings Account		118,999	116,870
<b>Total Current Assets General Fund</b>	3	<b>148,342</b>	<b>143,209</b>
<b>Total Current Assets</b>		<b>1,266,973</b>	<b>1,259,840</b>
<b>NET ASSETS</b>		<b>1,266,973</b>	<b>1,259,840</b>
<b>MEMBERS' FUNDS</b>			
Accumulated surplus – opening		1,259,840	1,205,692
Surplus for the period		7,133	54,148
<b>Total Members' Funds</b>		<b>1,266,973</b>	<b>1,259,840</b>

The accompanying notes form part of these financial statements

**AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED**  
**NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS**  
**FOR THE YEAR ENDED 30 JUNE 2017**

**Note 1: Statement of Significant Accounting Policies**

The financial report is a special purpose financial report prepared in order to satisfy the financial reporting requirements of the members. The Council has determined that the Society is not a reporting entity.

The financial report has been prepared in accordance with the requirements of Australian Accounting Standard AASB 1031: Materiality. No other applicable Accounting Standards, Australian Accounting Interpretations or other authoritative pronouncements of the Australian Accounting Standards Board have been applied.

The financial report has been prepared on a cash basis.

The following specific accounting policies, which are consistent with the previous period unless otherwise stated, have been adopted in the preparation of this financial report.

**(a) Membership**

Membership is recorded on a cash basis.

**(b) Income Tax**

Under present legislation the Society is exempt from income tax and accordingly no provision has been made in the accounts.

**(c) Comparative Figures**

Where required by Accounting Standards comparative figures have been adjusted to conform with the changes in presentation for the current year.

**(d) Members Funds**

In accordance with the rules of the Society accumulated funds are not available for distribution to its members.

**Note 2: Investment Income**

	<b>2017</b>	<b>2016</b>
	\$	\$
<b>RESEARCH FUND</b>		
Interest Received		
Cheque Account	1	3
Distributions		
Term Deposit	3,775	11,157
Colonial First State (Diversified Fund)	7,254	3,019
Australian Bond and Growth Fund	7,104	6,179
Term Deposit (Marlies Eichler Bequest)	9,431	-
Colonial First State (W'sale Conservative Fund)	(2,063)	-
<b>Total Investment Income</b>	<b>25,502</b>	<b>20,359</b>
<b>GENERAL FUND</b>		
Interest Received		
Cheque Account	4	8
Savings Account	2,129	2,629
Term Deposit (Marlies Eichler Bequest)	-	27,456
<b>Total Investment Income</b>	<b>2,133</b>	<b>30,093</b>

**Note 3: Accumulated Funds**

	<b>2017</b>	<b>2016</b>
	\$	\$
<b>RESEARCH FUND</b>		
Accumulated Surplus – Opening	1,116,631	545,454
Surplus for the period	2,000	571,177
<b>Accumulated Surplus – Closing</b>	<b>1,118,631</b>	<b>1,116,631</b>
<b>GENERAL FUND</b>		
Accumulated Surplus – Opening	143,209	660,238
Surplus for the period	5,133	(517,029)
<b>Accumulated Surplus – Closing</b>	<b>148,342</b>	<b>143,209</b>
<b>Total Surplus for the period</b>	<b>7,133</b>	<b>54,148</b>
<b>Total Accumulated Surplus</b>	<b>1,266,973</b>	<b>1,259,840</b>

**Note 4: Research Fund Investment Portfolio**

In May 2017 the Research Fund was restructured by cashing in all units held in the Colonial First State Diversified Fund and the Australian Bond and Growth Funds and combining the money realised



with funds held in the Marlies Eichler Bequest and part of the Commonwealth Term Deposit to invest \$1,055,356 in the Colonial First State First Choice Wholesale Conservative Fund. The Funds remaining in the Commonwealth Term deposit are sufficient to meet HJ Eichler Research Grants and Marlies Eichler Post-doctoral Fellowships until at least to the first half of 2019.

### **Research Committee**

The Australasian Systematic Botany Society is an approved research institute.

The approved membership of the Research Committee comprises:

Daniel Murphy (Chair)	<i>Ex officio</i>
David Glenny	Appointed March 2013
Sarah Matthews	Appointed March 2015
Heidi Meudt	Appointed March 2016
Joanne Birch	Appointed March 2016
Katharina Schulte	Appointed March 2016
Murray Henwood	Appointed March 2016

### **STATEMENT BY THE MEMBERS OF THE COUNCIL**

The Council has determined that the Society is not a reporting entity and that this special purpose financial report should be prepared in accordance with the accounting policies outlined in Note 1 to the financial statements.

In the opinion of the Council:

The financial report as set out on pages 1 to 6 [11–15 in this publication] presents a true and fair view of the Society's financial position as at 30 June 2017 and its performance for the year ended on that date.

At the date of this statement, there are reasonable grounds to believe that the Society will be able to pay its debts as and when they fall due.

This statement is made in accordance with the resolution of the Council and is signed for and on behalf of the Council by:

President .....

Darren Crayn – President

Treasurer .....

John Clarkson – Treasurer

Dated this 28<sup>th</sup> day of November 2017

*Australasian Systematic Botany Society Inc.*

**Hansjörg Eichler Research Grants**

**Applications close on March 14<sup>th</sup> 2018**

**We invite applications from financial members.**

For eligibility and other information see the ASBS website  
at [www.asbs.org.au/asbs/herfund/index.html](http://www.asbs.org.au/asbs/herfund/index.html)

or contact Vice-President Dan Murphy at [vicepres.asbs@gmail.com](mailto:vicepres.asbs@gmail.com)

## Appendix 3. ASBS Newsletter report

### 4 issues published

Since the last AGM in Alice Springs in September 2016, there have been four issues of the Newsletter produced on-line and in print. The first of these, the September-December issue (168/9) was rolled into one due to Robyn's breast cancer diagnosis in September and ongoing treatment from then. This enabled that issue to be brought out in December, but the subsequent 3 issues have slipped back such that they were all about 6 weeks late as in the past.

- *168/9 Sep/Dec. 2016* – published 22<sup>nd</sup> Dec 2016 (online), 23<sup>rd</sup> Dec (print) – 32 pp., plus a 6 pp. addendum listing the publications of Henry Connor.
- *170 March 2017* – published 28<sup>th</sup> April 2017 (online) 5<sup>th</sup> May (print) – 52 pp.
- *171 June 2017* – published 8<sup>th</sup> Aug 2017 (online) 18<sup>th</sup> Aug (print) – 40 pp.
- *172 September 2017* – published 9<sup>th</sup> Nov 2017 (online) 14<sup>th</sup> Nov (print) – 40 pp.

### Content

We are grateful to the many members who have contributed, but still think that there is a lot of news which is not being reported. Just talking to people attending the conference or visitors from other herbaria makes that fairly obvious. We are especially grateful to those writing copy for the newsletter. While the number of articles has been down this year the 2016 Burbidge Medal recipient, Tony Orchard, promptly provided us with the content of his Burbidge lecture and we

received five Eichler reports, a requirement for those receiving an Eichler grant from the Society. John Clarkson has been otherwise occupied in getting ASBS matters sorted, particularly in the Nancy Burbidge arena (*Newsletter 171*) and this is reflected in a considerable downturn in book reviews, but that has not always been John's fault. If you are in receipt of a copy of a book for review and do not deliver, this reflects badly on the Society and makes it more difficult to access review copies down the track. Please note that if you are guilty of this heinous crime, it is not too late to repent by providing us with a review. That said, there has been a general morphing into notices of new books rather than reviews and any member should feel free to contribute to this section.

It has clearly been a healthier year and there have been fewer obituaries, but thanks everyone involved in putting these together – they do take time but many paint a picture of the person concerned that is not necessarily be going to be recorded elsewhere and will be of long term value in botanical circles

As usual, many, many thanks to Anna Monro and Murray Fagg for their time in loading each issue on the web. The copy does not always come at a convenient time, nor always at the time predicted, and their efforts in getting it up and available as quickly as possible are often above and beyond the call of duty.

Robyn and Bill Barker

## Appendix 4. ASBS Web Pages report

*Covering period:* 1 July 2016–30 June 2017

The Society's website continues to be maintained by Anna Monro and Murray Fagg, with content supplied by members of the ASBS Council and by the editors of the Newsletter. Since April 2016 the site has been physically hosted on CSIRO infrastructure and this has caused ongoing problems with providing meaningful statistics on visitation and downloads. Without these it's not possible to extrapolate and comment on whether the site is being visited more or less or at the same rate as in the past.

In the last year the activities of the webmasters were largely "business as usual". Three issues of the *ASBS Newsletter* were uploaded (167, 168/169, 170) as soon as possible after receipt and various routine updates were made to listings of job and training opportunities and award recipients. One more out-of-the-ordinary but pleasing task was to upload a new page (Web ref.) for the Marlies Eichler Postdoctoral Fellowship in March 2017

In the past, web statistics have been reported for June each year in an attempt to provide comparable numbers. However, this is no



longer possible as the statistics available under the new hosting arrangement differ from those supplied in the past. Numbers for page hits/views and downloads are much lower than those in previous reports, to the point that they are not believable for the ASBS site or for the *anbg.gov.au* domain as a whole. Since the transition to the new servers was seamless and did not result in significant changes in the ranking of the sites in search engines like

Google it seems likely that the numbers now available are under-estimates.

In summary, given an inability to gather meaningful statistics on the usage of the website, future reports are likely to be very brief or perhaps should be discontinued.

**Web ref.** [www.asbs.org.au/awards/marlies-eichler-postdoc.html](http://www.asbs.org.au/awards/marlies-eichler-postdoc.html)

Compiled by Anna Monro

## Appendix 5. ASBS Facebook Group report

In its fifth year of life the ASBS Facebook Group has continued to grow, from 648 members at the time of the last AGM to 801 members in November 2017. This includes a majority of people that are not financial members of ASBS but are, presumably, interested in what we do.

Because of the way the group is configured in Facebook (as a “group” rather than a “page”), there are limited statistics we can view on the number of posts, “comments”, “shares”, “likes” etc. without manually trawling through them. However, it is safe to say that there are regular posts to the group, at least every few days on average, with 119 posts in the four months between August- November 2017, and a combined total of 328 posts, comments and likes in the 28 days to 24 Nov 2017.

Posts typically cover a variety of topics including news article relating to plants/environment/science in general, paper or book announcements, jobs and funding opportunities, herbarium news, death notices or obituaries, photos of plants, and ASBS business, including announcements relating to conferences, newsletters, elections, membership payments. etc. A relatively

small percentage of group members actively post content (notably Leon Perrie, Chrissen Gemmill, Jim Croft, David Cantrill, Alex Chapman, Karen Wilson, Mike Bayly, Kevin Thiele, Jen Tate, Heidi Meudt, Dan Murphy, Juliet Wege, Jeremy Bruhl, Adrienne McFroggy Markey, Ryonen Butcher, Andrew Thornhill, Nathalie Nagalingum), but quite a few members make occasional posts and there is a very good level of engagement in terms of members “liking” or responding to posts with comments. We lost a big contributor last year when Phil Garnock-Jones left the world of Facebook!

The ASBS group is currently “public”, which means anyone can see the group, members and posts, but only people in the group can post to the page. Requests to join are vetted by Mike Bayly or Todd McLay. We aim to exclude obvious spammers, but otherwise don’t enforce any strict criteria on group membership.

This Facebook group is a great way for the dispersed members of our society to keep in touch and discuss our common interests. If you are on Facebook and haven’t yet joined our group, you should!

Todd McLay and Mike Bayly

## Appendix 6. ASBS Research Committee report

### **Marlies Eichler Postdoctoral Fellowship**

The new Marlies Eichler Postdoctoral Fellowship scheme was implemented in 2017. The Fellowship is an ongoing ASBS grant scheme and one fellowship is awarded each year. The fellowship itself is valued at \$20,000 and runs for two years (made in two payments of \$10,000 per year). Due

to conflicts of interest, I removed myself from assessment of this round and ASBS President, Darren Crayn, chaired the Research Committee for this inaugural award.

There were three applications for the 2017 round. The grant scheme deadline has been timed to fall on 31 July, between the two Hansjörg Eichler Scientific Research Fund

rounds. It is quite likely the small number of applications may have been affected by the due date falling in the middle of the International Botanical Congress in China, but may also simply reflect a new scheme. It will be important for the ASBS council to get the word out about the Marlies Eichler Postdoctoral Fellowship, and assess the number of applications in the coming years.

The Research Committee noted the high quality of all the applications, and the first Marlies Eichler Postdoctoral Fellowship was awarded to:

- Dr Bee Gunn, Royal Botanic Gardens Victoria and The University of Melbourne. Project: "Evolution of polyploidy in Australian Asparagales".

The announcement of the first Marlies Eichler Postdoctoral Fellowship was formally made during the ASBS AGM in Adelaide.

#### **Hansjörg Eichler Scientific Research Fund**

There were two rounds of Hansjörg Eichler Scientific Research Fund research grants, in March and September 2017. Each round usually comprises two grants, each up to a maximum of \$5000 (four grants per year).

In the March round, there were six applications, and due to the high quality of applications and the amounts requested, the Research Committee recommended three proposals be funded, for a total of \$10,202. The ASBS council agreed to this and the awards were made to:

- Amelia Boxshall, The University of Melbourne. Project: "Investigation of the southern Australian members of the mushroom genus *Agaricus* L. in a phylogenetic context". Amount: \$4505.
- Patricio Saldivia Perez, University of Otago. Project: "Molecular systematics and taxonomy of *Celmisia* group (Asteraceae: Astereae) with emphasis in the genus *Celmisia* Cass. subgenus *Lignosae* (Allan) Given". Amount: \$4674.
- Matilda Brown, University of Tasmania. Project: "Out of place: anomalous assemblages of conifers and evolution of the climatic niche". Amount: \$1023

In November, the September grant round assessment was finalised. There were six applications and the successful candidates for the September 2017 round were:

- Nicole Foster, University of Adelaide. Project: "Understanding changes in the biodiversity of coastal plant communities through time". Amount: \$5000.
- Elizabeth Joyce, Australian Tropical Herbarium and James Cook University. Project: "Phylogeography of the *Aglaia elaeagnoidea* complex: resolving taxonomy and reconstructing biogeography". Amount: \$4970.

The successful candidates were announced and awarded their cheques during the ASBS AGM in Adelaide.

#### **Reporting on grants**

During the past few months I have been chasing up reports for previous recipients of the Hansjörg Eichler Scientific Research grants. There are not too many and so far, I have only gone back a few years, but this has been met with good success and I am grateful that those awardees I contacted immediately replied and some have already submitted reports or have provided a timeline for doing so. It would be very helpful if project supervisors and past grant recipients could check if reports have been submitted, since these are part of the grant requirements. It is never too late to submit a report, as even the results of projects from years ago will be read with interest by the ASBS membership.

I am keeping a spreadsheet of reporting for future Vice-President's for the Hansjörg Eichler Scientific Research Fund (these reports are also linked to the ASBS Newsletters on the ASBS website).

#### **ASBS Research Committee**

While the Vice-President acts as the Chair of the Research Committee, I do not score the grants (unless a tie-breaker is required), but rather collate the Research Committee's recommendations to put to council. The ASBS council recognises and thanks the Research Committee for their dedication and hard work in assessing all the grants.

The current ASBS Research Committee comprises:

- Dan Murphy (Chair, ex officio as VP ASBS), Royal Botanic Gardens Victoria
- Joanne Birch, The University of Melbourne, Australia



- David Glenny, Landcare Research Manaaki Whenua, Lincoln, New Zealand
- Murray Henwood, University of Sydney, Australia
- Sarah Mathews, Centre for Australian

National Biodiversity Research, Canberra, Australia

Dan Murphy  
Vice-President ASBS,  
ex officio Chair of Research Committee

## Conference reports

### *Systematics 2017: Integrating Systematics for Conservation and Ecology – ASBS/SASB Conference, University of Adelaide, November 26–29 2017*

Lizzy Joyce and Peter Weston  
Australian Tropical Herbarium, James Cook University, Cairns  
& National Herbarium of NSW

Information animal, vegetable and mineral was on showcase at this year's Systematics 2017 conference in a joint meeting of the *Australasian Systematic Botany Society* and the *Society of Australian Systematic Biologists*. The theme was integrating systematics for conservation and ecology, and provided an opportunity to find common ground and new perspectives across plants and animals. With a diverse and packed programme, the only being left disappointed was the pig, who surprisingly hardly got an oink in throughout the proceedings. Although we couldn't get to all of the talks due to the concurrent sessions, this is a recap of our version of events...

The conference started early for some, with a career development workshop for early-career women researchers run by Nerida Wilson and featuring sage, entertaining and inspiring talks by Juliet Wege, Nathalie Nagalingum and Kelly Shepherd, among others. Like psylloidean insects to their Sapindaceous host, systematists from far and wide then converged upon the National Wine Centre in the botanic gardens for a merry welcome reception.

The first day set the tone for the conference, with focus on new directions in Australasian taxonomy and systematics. Proceedings kicked off with a welcome address from Michelle Waycott, followed by the plenary talk by zoologist Gonzalo Giribet with his talk entitled "Biogeography meets genomics – new trends in data analysis of biogeographic data".

Gonzalo's talk highlighted the challenges our field faces in the teething stages of genomic phylogenetics, and emphasised the need for cautious contemplation of dating techniques, and data (less can be more!), also suggesting that it may be time to rethink the way we approach and conceptualise biogeographical analysis with genomic data. Drawing an analogy with coalescence-based methods for producing species trees from collections of gene trees, Gonzalo suggested that the next generation of biogeographic methods would need to integrate processes such as dispersal, extinction and vicariance more effectively than current approaches do.

This was followed by the much-anticipated official launch of the *Flora of Australia eFlora*. Zoe Knapp introduced the *eFlora*, explaining how each taxon has a separate profile page, which is integrated with distribution data from AVH, images from the Australian Plant Image Database, and data from ALA, and demonstrated its versatile search and browsing functions. The launch was then commenced by Judy West, followed by a keynote address by Bob Hill and speeches from Michelle Waycott and John LaSalle. Bob stressed the importance of the *eFlora* in documenting and understanding our unique biodiversity, conservation efforts, biosecurity and realising our economic potential. He also emphasised the advantages of having the *Flora* in a digital format, enabling greater collaboration, dissemination of information, utility and ability for updating, concluding



Fig. 1. Botanic Gardens of South Australia Director Lucy Sutherland opening the *Systematics 2017* conference in the initial plenary session in the Braggs lecture theatre at the University of Adelaide.

Ph. A. Calladine

Looking to the future continued after lunch, with a plenary on the Biosystematics and Taxonomy Decadal Plan by Kevin Thiele. Kevin gave an update on the status of the plan, detailing that the community ‘town hall meetings’ had concluded with over 400 attendees participating, and that an exposure draft of the plan would be released shortly. He outlined the five keystone objectives of the plan: accelerating discovery; enhancing services for end users; engaging with indigenous knowledge; educating for the future; supporting our workforce, and emphasised that he is keen for feedback. It was very exciting to see the plan so near fruition and it was received with enthusiasm. Perhaps Kevin’s only misstep in the process so far was opening nominations for the title of the Decadal Plan at the conference dinner. Don’t be surprised if the plan is published under the oenologically-inspired title “Planny McPlanface”, “Name that thing”, or “It’s time for the main course”.

The afternoon showcased the broad range of questions being answered in Australian botanical systematics. Tim Hammer presented his integrative taxonomic work, where he conducted detailed studies of molecular data, morphology and ecology to resolve the *Ptilotus nobilis* species complex and re-discover *P. exaltatus*. Francis Nge introduced his PhD work exploring the differences in diversity patterns observed on the west and east coast of Australia, and Allison Mertin gave a very poised and engaging talk about her CSIRO summer internship work on the phylogeny of *Pterostylis*. Nicole Foster then introduced her PhD project which will develop an eDNA technique to understand the change in coastal vegetation along the south coast.

Tuesday started with the keynote talk from Judy West, where she asked us to consider: “Can systematics evolve beyond its years?”. Judy reflected on the past 20 years of systematics, suggesting that while many of the same challenges exist today, our strong

that it will “breathe new life into the *Flora of Australia*” and is a tool for selling our story to reinvigorate a sense of wonder in our flora. Michelle reflected on how the *eFlora* is a culmination of generations of taxonomic and curatorial work, and explored the potential of the *eFlora* in increasing the rate of taxonomic treatment production and educational settings. She noted that the *eFlora* needed to be built and then properly maintained, to remain as an authoritative resource into the future. John touched on the *eFlora* as being a demand-driven, pilot project which will lead to more products in the future. The *eFlora* was then ceremoniously unveiled by Bob with some pretty spectacular Powerpoint animation features that drew ‘oohs’ and ‘ahhs’ from the audience. The *Flora of Australia eFlora* is available on-line on Mozilla Firefox, Google Chrome and Safari (Web ref.).



tradition of collaboration and willingness to embrace new technology gives us more potential than ever, so long as the integrity of our science is maintained.

The day then moved into a seminar on the Australian-Asian biotic exchange, which was an enjoyable opportunity for the sharing of zoological and botanical knowledge. Herpetological systematist Paul Oliver commenced the seminar by highlighting the complexity of understanding the Australian-Asian biotic exchange and the need for hypothesis-driven science, as well as the value of a synthetic approach across all biota. Of the botanical talks, Lalita Simpson gave a great talk about biogeographical patterns in *Bulbophyllum* and *Dendrobium*, and Katharina Nargar talked about using genomic data to look at orchid diversification in the region. Sarah Mathews talked about using DNA barcoding to understand forest biogeography throughout Indonesia, and Lizzy Joyce introduced her project investigating patterns of floristic exchange and particularly the role of New Guinea. A break in the talks made for engaging and excited discussion about future directions in investigating the exchange. Charles Foster then gave an entertaining talk about the biogeography of *Pimelea* showcasing his very impressive methodological arsenal and photoshopping skills.

The second keynote talk for the day was from zoologist Kristofer Helgen, who highlighted the importance and untapped potential of collections in documenting the impact of the Anthropocene and dazzled us with some photos of those cute-fuzzies that animal people go on about.

Fig. 2. Our correspondent Lizzy Joyce won the Pauline Ladiges Prize for the best conference presentation by an ASBS member. Dan Murphy Editor in Chief of *Australian Systematic Botany* presented the award.

Ph. J. Clarkson

This was followed by a talk by Todd McLay, who explored the evolutionary insights that can come with incongruent patterns in nuclear and chloroplast genomes in *Eucalyptus* with hand-waving enthusiasm. Gillian Brown then wowed us with her 3-month super-project which used next generation sequencing to understand the systematics of an endangered taxon at the species-population interface to inform management decisions. Patricia Lu-Irving explored the convoluted relationships within *Lantana* that require further investigation to gain an understanding of the ecology and biogeography of this genus, leaving the audience flabbergasted but optimistic for finding effective weed management strategies in the future. After the poster session, the ASBS meeting was held and everyone headed to the National Wine Centre for the conference dinner where much wine, merriment, good food and some serious dance-floor moves were enjoyed by all.

Needless to say the last day of the conference got off to a slower start, but a good start nonetheless with the commencement of the palaeobotany seminar. Bob Hill and Andrew





Fig. 3. Handing over the ASBS Pig (the original undamaged Alice Springs fellow - the younger brother is held in the State Herbarium of South Australia). Could this be the end of the traditional ASBS Torch? An extra South Aussie touch was the Barossa wine in the packet. From left, members of the Brisbane Organising Committee, Andrew Rozefelds, Gill Brown and Paul Forster, with co-convenor of the Adelaide conference, Michelle Waycott.

Ph. J. Clarkson

Rozefelds gave thought-provoking talks exploring the importance of paleobotany in systematics, ecology and future conservation decisions. John Conran gave a presentation on ancient Araucarian forests with some gobsmacking photos of fossilised forests and amber fossils, and Myall Tarran gave an infectious energetic talk about his PhD work on the fossil record of *Syzygium* and *Metrosideros* in Southern Australia. The seminar was rounded off with systematic botany talks where Peter Wilson gave an amusing presentation on his work with the 'uncharismatic' *Haloragis*.

The final keynote talk for the conference was given by Shelley James, who highlighted the potential for collections to be even more integrated and available through online tools than ever. The afternoon showcased new methods in systematics, with Matt Renner giving an exasperated but entertaining talk about combining phylogenetic data with multivariate environmental data to explore the prevalence of phylogenetic niche conservatism in *Acacia*. Matt Buys talked about using Anchored Hybrid Enrichment in systematics of *Leptospermum*, and Ed Biffin talked about developing a new hybrid enrichment approach for Australia's flora. Nathalie Nagalingum gave a great talk on the use of next-generation data for resolving

ancient relationships within cycads, and Lars Nauheimer highlighted the large, rapid changes in the inverted repeats that can occur within plastome sequences within a relatively short period of time.

The conference was wrapped up with final words from Darren Crayn and prizes were awarded. The conference concluded with a heartfelt address from Michelle Waycott and the ASBS conference was handed over to Brisbane for 2018 with a bottle of wine, and the infamous ASBS pig.

This conference highlighted what an exciting time it is to be part of systematics in Australia. Indeed, the golden age of systematics, which began with the invention of explicit methods of analysis in the 1960s and 1970s, and the incorporation of molecular data in the 1990s, just keeps getting better. The talks throughout the conference exemplified how the field is embracing the new era of genomic data, more sophisticated analytical techniques, new technology and digital resources and using creative and considered approaches to applying systematics to questions in conservation biology, taxonomy, biogeography and ecology. What was also evident was the respect for the importance of integrating our history and traditional taxonomy with new technology. We are optimistic that the forthcoming decadal



plan will help to ensure that the spectacular scientific progress that has been achieved in our field is suitably fostered in Australasia well into the future.

This was the fourth conference that ASBS and SASB have organised together, following previous get-togethers in 1997, 1999 and 2013. It is a great pleasure to be able to hop between talks on your favourite plant groups and presentations on fascinating groups of organisms that you never even heard about in undergraduate biology classes. It is also really smart for systematists of all stripes to get together regularly to discuss shared conceptual and methodological problems. The general interests that we share with other systematic biologists greatly outweigh the problems imposed by particular organismal groups. The limitations of present methods of phylogenetic analysis, for instance, hinder all of us. On the other hand, understanding

the fundamental differences between major groups of organisms is crucial in selecting appropriate methods and concepts to deal with specific problems. For example, green plants, vertebrates, insects and fungi have profoundly different modes of development, which sometimes need to be taken into account in developing and applying systematic methods. Joint conferences of ASBS and SASB facilitate an appreciation of these similarities and differences and we hope that they will become a regular feature of the timetables of our societies.

We're looking forward to Brisbane in 2018!

Web ref. [www.ausflora.org.au](http://www.ausflora.org.au)

## Eichler Research Fund reports

### Molecular systematics of the New Caledonian Cryptocaryeae (Lauraceae)

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New Caledonia is an archipelago located in the southwest Pacific. It is approximately 1700km north of New Zealand and 1200km east of Queensland Australia (Buerki et al. 2012). New Caledonia is recognised as a biodiversity “hotspot” with over 3000 native vascular plant species (Myers et al. 2000; Morat et al. 2012) and a level of endemism estimated to be between 76-80% for the vascular plant species. It is estimated that only 65% of these currently described species have been revised since 1967 (Jaffré 1993; Morat et al. 2012; Munzinger et al. 2016). Within New Caledonia, 98% of Lauraceae species are endemic (Morat et al. 2012; Munzinger et al. 2016) with all of the New Caledonian Cryptocaryeae species being endemic. The sub-family Cryptocaryeae is represented in New Caledonia by *Beilschmiedia* Nees. (2 species), *Cryptocarya* R. Br. (22 species) and *Endiandra* R. Br. (6 species) (Morat et al. 2012; Rohwer et al. 2014; Munzinger et al. 2016).

Kostermans (1974) conducted the last comprehensive taxonomic revision of New Caledonian Lauraceae. Recent molecular analyses (Rohwer 2000; Chanderbali et al. 2001; Rohwer et al. 2014) using ITS suggest that *Beilschmiedia*, *Cryptocarya* and *Endiandra* are sister taxa. It is unknown whether *Endiandra* is nested within *Beilschmiedia* as it is weakly supported as being a sister taxon with ITS analysis (Rohwer et al. 2014). *Endiandra* in New Caledonia is believed to be the result of a single colonisation event.

The main aim of the project was to test the taxonomic delimitations of the New Caledonian Cryptocaryeae. There were also two other questions that we attempted to answer as part of this project:

1. Are New Caledonian *Beilschmiedia*, *Cryptocarya* and *Endiandra* monophyletic?
2. Does *Cryptocarya* form two clades as suggested by Rohwer et al. (2014) and van der Merwe et al. (2016)?

This study generated 98 new complete ITS sequences, 40 of which were solely funded by the Eichler grant. This study has also generated 21 complete *trnL*-*trnF* sequences so far. The remainder of the *trnL* - *trnF* samples will be sequenced for the paper to create congruence between the ITS and *trnL*-*trnF* data sets. The majority of the specimens that were sequenced are from New Caledonia. Bayesian inference trees were constructed to analyse the relationship between the New Caledonian Cryptocaryae tested and the other Cryptocaryae present in this study.

The Bayesian inference tree from our preliminary analyses using ITS sequences had two strongly supported clades. *Beilschmiedia* and *Endiandra* formed the first clade and *Cryptocarya* formed the second clade. The New Caledonia *Beilschmiedia* and *Endiandra* formed two strongly supported monophyletic clades supporting our hypothesis that the New Caledonian *Beilschmiedia* and *Endiandra* are monophyletic. We were not able to discern however in our preliminary analyses whether *Beilschmiedia* and *Endiandra* were two separate genera or a single diverse one. *trnL* – *trnF* will be required to support or disprove this hypothesis.

The preliminary results support the New Caledonian *Cryptocarya* as being polyphyletic. Our preliminary results also supported Rohwer et al. (2014) and van der Merwe et al. (2016) hypothesis that there are two distinct clades within the *Cryptocarya* genus.

The preliminary results and a comprehensive account of this project were described as part of a MSc thesis submitted to the University of Waikato (UoW). The final results of this study will be submitted to *Australian Systematic Botany* following final analyses in early 2018.

### Acknowledgements

I would like to thank the Australasian Systematic Botany Society for financial support through the Hansjörg Eichler Scientific Fund. This support allowed me to extract, amplify DNA through PCR, and sequence additional samples of Cryptocaryae for two markers. I would also like to thank

the Herbarium of the Institute for Research and Development (IRD) Noumea (NOU) for the samples and support. A huge thank you to Dr Chrissen Gemmill for her tireless support and guidance throughout this project and to Dr. Jérôme Munzinger for being my co-supervisor and supporting this project from afar.

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## Morphology of syntypes of the Australian resurrection grass, *Tripogon loliiformis* (Poaceae: Chloridoideae)

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*Tripogon loliiformis* (F.Muell.) C.E.Hubb. is a species of desiccation tolerant grass that is found in Australia and New Guinea. It is a morphologically variable and widespread short (5–30 cm) grass that forms an important component of rocky outcrop flora (Gaff 1981; Palmer & Weiller 2005; Scharaschkin & Fabillo 2015). Its variation in inflorescence morphology has led to the suggestion that it could be more than one species.

When *T. loliiformis* was first described by Mueller (1873, as *Festuca loliiformis*), he did not assign a holotype for it. Instead, he listed different localities in Queensland and Western Australia from where he found *T. loliiformis*. At present, there are 12 syntypes for *T. loliiformis*, which cover the morphological variability of the taxon (Table 1); all are housed at the National Herbarium of Victoria (MEL). When Palmer and Weiller (2005) described *T. loliiformis* in the *Flora of Australia*, they did not choose a lectotype as “the taxonomy was not resolved” (Palmer, pers. comm.). They suggested I look at these types and see how they compared with the other specimens from all over Australia.

A significant part of my PhD project focussed on describing the morphology and reconstructing the phylogeny of *T. loliiformis*. Using light and scanning electron microscopy and obtaining morphological and molecular data, I investigated whether

the different morphological forms observed in *T. loliiformis* form separate well-supported clades (Fabillo 2015). The aim of the study funded by the Hansjörg Eichler Scientific Research Fund was to describe and compare the gross morphology and leaf and inflorescence surface structure (micromorphology) of the 12 syntypes of *T. loliiformis*. These morphological data will be critical for any subsequent revision of *T. loliiformis*.

Gross morphology data for studying the 12 syntypes of *T. loliiformis* were obtained through careful observation of the specimens using a stereoscope in MEL. Leaf and lemma micromorphological data were obtained through electron microscopy of leaf and lemma samples from all 12 syntypes of *T. loliiformis* (Table 1). Samples of leaves and lemma were directly coated with gold and were examined using a Zeiss Sigma VP Field Emission scanning electron microscope at Queensland University of Technology (QUT). Observations and data were taken from the middle part of both sides (abaxial and adaxial) of the leaves and one side of the lemma. As a starting point, 48 gross and leaf and lemma micromorphological characters previously reported for species of *Tripogon* and other chloridoid grasses were included (Watson et al. 1992 onwards; Columbus 1998; Rúgolo de Agrasar & Vega 2004). Some of the characters

Table 1. Details of *Festuca loliiformis* syntypes studied.

Voucher	Locality
E. Bowman (MEL104178)	Queensland
E. Bowman (MEL104181)	Queensland (Suttors River)
E. Bowman (MEL104182)	Queensland (Suttors River)
E. Bowman (MEL104183)	Queensland (Herbert's Creek)
E. Bowman (MEL626902)	Queensland (Gracemere)
E. Bowman (MEL104179)	Queensland (Walloon)
J. Drummond s.n. (MEL626896)	Western Australia
J. Drummond 976 (MEL626899)	Western Australia
Leichhardt (MEL 104177)	Queensland (Moreton Bay)
Leichhardt (MEL 626898)	Queensland (Charley's Creek)
Leichhardt (MEL 626901)	Queensland (Charley's Creek)
O'Shanesy (MEL 626897)	Queensland (Rockhampton)

preliminarily considered for the study were removed from the list because these characters were observed to vary in *T. loliiformis* depending on whether samples were obtained from fresh, dry or herbarium specimens. Out of 48 characters, 11 were assessed for variability (six for leaf and five for lemma micromorphology). Terminology used was based on Watson et al. (1992 onwards) and Ellis (1979).

Results from my PhD project showed that based



on morphological data (specifically, inflorescence features), *T. loliiformis* can be grouped into three to five distinct morphological forms, which correspond to different geographic locations in Australia (Fabillo 2015; Scharaschkin & Fabillo 2015). Based on phylogenetic analyses (Bayesian, maximum likelihood, parsimony) of molecular (ITS + *ndhF* + *trnL-F*) and morphological data, the morphological forms observed in *T. loliiformis* do not correspond to distinct clades (Fabillo 2015).

The morphological forms found in *T. loliiformis* collected from its geographic range can be seen in the 12 syntypes. Syntypes collected from Queensland are taller in height (15–20 cm) with long inflorescences (10–15 cm) bearing 9–17-mm spikelets that are not overlapping or nearly overlapping. Syntypes from Western Australia are shorter in height (7–12 cm) with short inflorescences (5–8 cm) having 2–8-mm spikelets that are always overlapping (Table 2, Figure 1a–b). Although the 12 syntypes vary in gross morphology, results of the micromorphological study of leaves and lemma show that all 12 syntypes of *T. loliiformis* do not vary. Leaf micromorphological characters (long cell outline, shape of silica cells, subsidiary cells and micro-hair, and presence of intercostal short cells and macro-hair) and lemma micromorphological characters (long cell outline, shape of silica cells, subsidiary cells and micro-hair, and presence of macro-hair) are similar in all syntypes (Table 2, Figure 1c–l). The middle surface of the leaf and lemma is dominated by long cells that have deeply undulating ( $\Omega$ -shaped) anticlinal walls (Fig. 1c–d). Crescent-shaped short cells, identified as cork cells through Sudan IV staining, are usually found in between long cells in the lemma. Short cells with saddle-shaped silica are found on leaf surfaces (Fig. 1e–f). Rows of stomata are found along the border of the lemma veins and leaf intercostal zone. These stomata are surrounded by subsidiary cells that are triangular in shape (Fig. 1g–h).

The bicellular micro-hairs are interspersed on rows of long and short cells. The micro-hair is of the chloridoid type, that is, it has a short basal cell that is sometimes not visible and an equally short distal cell that is usually collapsed in the specimens examined (Fig. 1i–j). Macro-hairs are present in both leaf and lemma surface (Fig. 1k–l). The similarity in micromorphology that was observed in the 12 syntypes is consistent with what was observed in all the accessions of *T. loliiformis* used for my PhD project (Fabillo 2015).


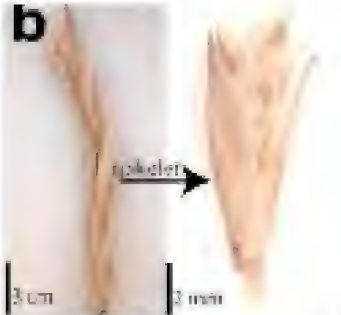
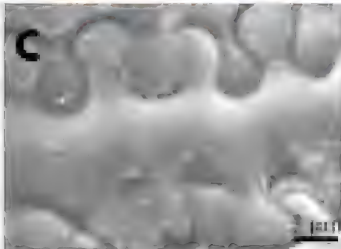

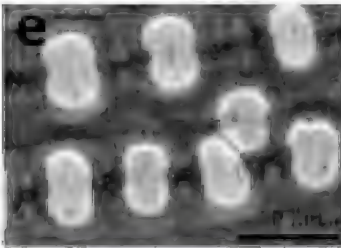
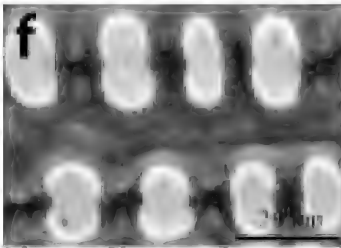
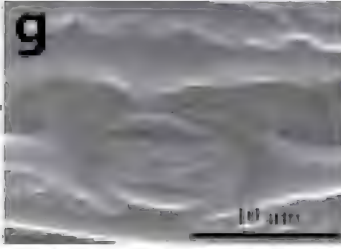
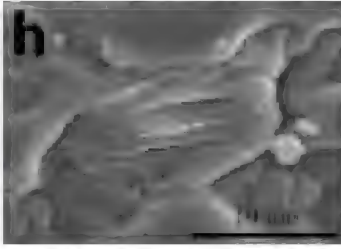
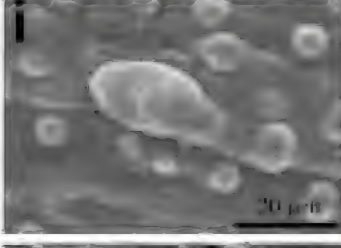
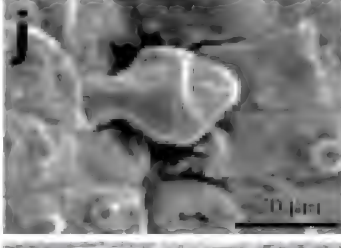
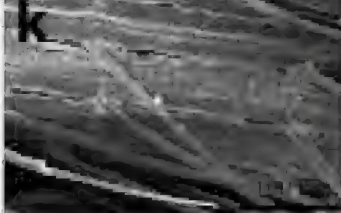
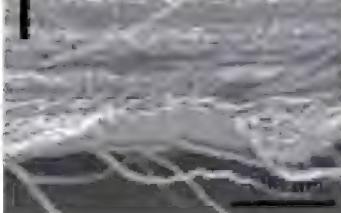
The infraspecific variation that is observed in the height of plants and length of the inflorescences and spikelets of *T. loliiformis*, could be attributed to phenotypic plasticity as a consequence of differences in ecological habitats. Population genetic studies involving the Australian species of *Tripogon* are recommended to further test this supposition. Numerous studies emphasise the value of leaf and inflorescence structure in systematic studies of Poaceae (e.g., Thomasson 1981; Peterson 1989; Columbus 1996; Snow 1996; Liu et al. 2010; Torres González and Morton 2005; Romaschenko et al. 2012; Nobis 2013). Surface features of the leaf and inflorescence bracts (e.g., lemma) are considered reliable, being less plastic (Davis 1983; Consaul et al. 2008).

Micromorphological descriptions of the leaf and lemma, reported for the first time in this study, make a significant contribution to the existing knowledge about the genus *Tripogon* in general and *T. loliiformis* in particular. This new knowledge opens up pathways for future areas of study, for example, those involving the desiccation tolerance of some species, including, *T. loliiformis*.

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Fig. 1. Inflorescence and spikelet morphology and leaf micromorphology in two sets of geographically widely separated syntypes of *Tripogon loliiformis*. Inflorescence and spikelet features (e.g., length, degree of overlap) vary among syntypes (a–b). Leaf micromorphological features including a–b) long cell outline, b–c) silica cell shape, d–e) subsidiary cell shape, f–g) micro-hair shape and i–j) presence of macro-hair are similar in all syntypes of *T. loliiformis*. The same characters were used for lemma micromorphology (not shown) and were found to not vary in the syntypes studied.

	J. Drummond (Western Australia)	E. Bowman (Queensland)
Inflorescence and spikelet length (variable)	<b>a</b> 	<b>b</b> 
Long cell outline (omega shaped)	<b>c</b> 	<b>d</b> 
Silica cell shape (saddle-shaped)	<b>e</b> 	<b>f</b> 
Subsidiary cell shape (triangular)	<b>g</b> 	<b>h</b> 
Micro-hair shape (chloridoid type)	<b>i</b> 	<b>j</b> 
Macro-hair (present)	<b>k</b> 	<b>l</b> 

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- Watson, L., T.D. Macfarlane, and M.J. Dallwitz. 1992 onwards. *The grass genera of the world: descriptions, illustrations, identification, and information retrieval; including synonyms, morphology, anatomy, physiology, phytochemistry, cytology, classification, pathogens, world and local distribution, and references*. Version: 14<sup>th</sup> June 2017 at <http://delta-intkey.com/grass/>

## Points of view

### Virtual attendance at Nomenclatural session of IBC?

Interesting to see the suggestion of virtual attendance and electronic voting at future nomenclature sessions of the International Botanical Congress (Landrum et al. 2017). The proponents raise many issues which expose the undemocratic nature of the present system but while the adoption of the suggestion might improve access it might also lead to unwieldy and unworkable sessions.

#### Reference

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at the Nomenclature Section of an International Botanical Congress. *Taxon* 66: 704–707 (June 2017). [www.ingentaconnect.com/content/iapt/tax/2017/00000066/00000003/art00012](http://www.ingentaconnect.com/content/iapt/tax/2017/00000066/00000003/art00012)

### 100 articles every ecologist should read

When this article (Courchamp & Bradshaw 2017) was first published in the new journal *Nature Ecology & Evolution* (first issued January 2017) it raised the question of whether taxonomists should also have such an equivalent list. On reflection, the answer seemed to be no, since we all have such diverse interests. But then again, perhaps there could be some merit in trying to compile a list of must reads for students, a stated aim of this project:



Our objective was to propose a list of seminal papers deemed to be of major importance in ecology, thus providing a general 'must-read' list for any new ecologist, regardless of particular topic or expertise [from Abstract].

It seemed like a reasonable aim. But that was before four responses to the article (see citations below) were all aired [?coincidentally] in the same journal a month later, all of them pointing to areas of bias in the original.

Sadly the original paper is not freely available and nor are the responses but you are able to freely access all of the web pages cited below and these give a good coverage of the issue. The concept of 'flick-bouncing', apparently mentioned in the original paper, and presumably defined there, is mentioned in Web ref. 4 and seems to be a new term for the way that papers are read now, allowing them to be read more efficiently and faster (or not at all).

## References

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- Ramirez et al. (2017). The future of ecology is collaborative, inclusive and deconstructs biases. *Nature Ecology & Evolution*. <https://doi.org/10.1038/s41559-017-0445-7>
- Web ref. 1: <https://natureecoevocommunity.nature.com/users/66917-franck-courchamp/posts/22484-100-papers-every-ecologist-should-read> [Courchamp shares the real story in *Behind the paper*]
- Web ref. 2: <https://conservationbytes.com/2017/11/14/100-papers-that-every-ecologist-should-read/> [Bradshaw's explanation for the paper]
- Web ref. 3: <https://smallpondscience.com/2017/11/14/what-are-the-top-100-must-read-papers-in-ecology/>
- Web ref. 4: <http://blogs.plos.org/ecology/2017/12/29/525600-minutes-365-papers-and-100-articles-every-ecologist-should-read/>

## Washington Post debate

"We don't need to save endangered species. Extinction is part of evolution" was the title<sup>1</sup> of an Outlook essay in the *Washington Post* on November 22<sup>nd</sup> 2017 (Web ref. 1). The author, R. Alexander Pyron, a professor of Biology at George Washington University, indicated that the only organism in need of protection was man and that:

Even if we live as sustainably as we can, many creatures will die off, and alien species will disrupt formerly "pristine" native ecosystems. The sixth extinction is ongoing and inevitable — and Earth's long-term recovery is guaranteed by history (though the process will be slow). Invasion and extinction are the regenerative and rejuvenating mechanisms of evolution, the engines of biodiversity.

A group response, "We must protect biodiversity" (Web ref. 2), signed by 3700 people from 88 countries appeared as a very brief letter to the editor on December 15<sup>th</sup> arguing that Pyron's views were "at odds with scientific facts and our moral responsibility".

## Web references

- 1: [https://www.washingtonpost.com/outlook/we-dont-need-to-save-endangered-species-extinction-is-part-of-evolution/2017/11/21/57fc5658-cdb4-11e7-a1a3-0d1e45a6de3d\\_story.html?tid=a\\_inl&utm\\_term=.96936a6ac0f2](https://www.washingtonpost.com/outlook/we-dont-need-to-save-endangered-species-extinction-is-part-of-evolution/2017/11/21/57fc5658-cdb4-11e7-a1a3-0d1e45a6de3d_story.html?tid=a_inl&utm_term=.96936a6ac0f2)
- 2: [https://www.washingtonpost.com/opinions/2017/12/15/53e6147c-e0f7-11e7-b2e9-8c636f076c76\\_story.html?utm\\_term=.571f102a8193](https://www.washingtonpost.com/opinions/2017/12/15/53e6147c-e0f7-11e7-b2e9-8c636f076c76_story.html?utm_term=.571f102a8193)

## A world without glyphosate

An assessment of the global outcomes if glyphosate is banned and genetically modified herbicide tolerant (GM HT) crops can no longer be planted.

## Reference

- Graham Brookes, Farzad Taheripour & Wallace E. Tyner (2017). The contribution of glyphosate to agriculture and potential impact of restrictions on use at the global level. *GM Crops & Food* <https://doi.org/10.1080/21645698.2017.1390637>

<sup>1</sup> Referred to as "*Species die. Get over it.*" in the group response.

## ABRS report

### Staff updates

Phillip Kodela joined the ABRS in November and will assist with managing content for the *Flora of Australia*. Chris Palmer has moved back into the main Department. Tony Orchard continues to provide volunteer associate editorial support for the *Flora of Australia*.

### National launch of the electronic *Flora of Australia*

The new electronic *Flora of Australia* (Web ref. 1) was formally launched at the Systematics 2017 conference in Adelaide. The ABRS is currently developing contributor guidelines and user support is available online (Web ref. 2). Please contact the ABRS at [abrs@environment.gov.au](mailto:abrs@environment.gov.au) with any feedback about the *Flora* content and platform functionality.

The ABRS is working to publish treatments that were previously submitted for publication in planned, but as yet unpublished hard copy *Flora* volumes. As such, we may be in touch with contributors regarding submitted manuscripts. The ABRS will also gradually update treatments imported to the digital platform from the published hard copy *Flora* volumes, including to harmonise taxon concepts with the Australian Plant Census. In the meantime there may be some mismatch between the originally published *Flora* concepts and automatically linked data on the digital platform, including distribution maps, images and keys.

Priorities for new contributions of vascular plant taxa to the *Flora of Australia* are outlined on the ABRS website (Web ref. 3,

and refer to 'Grants' section below). Please contact ABRS if you are willing to add any new *Flora* profiles, or update existing descriptions.

### Grants

The 2018–19 National Taxonomy Research Grant Programme (NTRGP) Research Grants and Capacity-Building Grants rounds closed on 2 November 2017. Applications are currently being assessed and applicants will be notified of the outcomes in early 2018. More information is available on the ABRS website (Web ref. 3).

Please note that for the 2018-19 NTRGP grants round, funding for vascular plant groups will be prioritised towards taxa listed in the Final Priority Plant Taxa List for projects relating to the *Flora of Australia* (Web ref. 3).

The Bush Blitz Tactical Taxonomy grants closed on 16 October 2017. More information is available on the Bush Blitz website (Web ref. 4).

### Web references

- 1: [www.ausflora.org.au](http://www.ausflora.org.au)
- 2: <https://ausflora.net/>
- 3: [www.environment.gov.au/science/abrs/grants/](http://www.environment.gov.au/science/abrs/grants/)
- 4: [www.bushblitz.org.au/grants](http://www.bushblitz.org.au/grants)

Zoe Knapp & Anthony Whalen  
December 2017

### Editorial note

*Results of the latest ABRS survey of Australian taxonomic capacity have been published recently (see p. 45).*

### **Decadal Plan for Taxonomy and Biosystematics**

#### **Call for comment on *Exposure Draft* by January 31<sup>st</sup>**

Comment, feedback, suggestions and constructive criticism are sought from taxonomist and end-user participants in the 2017 sector-stakeholder engagement meetings and those who have expressed interest or have taken part in discussions.

For further information contact Program Manager of the Plan  
Kevin Thiele at [kevin.thiele@science.org.au](mailto:kevin.thiele@science.org.au)

# Obituary

## Joan Margaret Taylor, 1929–2017

Mike Crisp

Research School of Biology, Australian National University

Joan Taylor was born and raised in rural Victoria and moved to Canberra after she married. There, she initially lived a domestic existence, bringing up two children (Peter and Rosanne) and developing a beautiful garden, which was a life-long hobby. After her husband retired early on medical grounds, she put her energy into supporting her children. Rosanne went to university, studied veterinary science and today is Professor and Dean of the School of Veterinary Science at The University of Sydney. In Rosanne's words, her mother (like mine) did not have the luxury of going to university and instead she obtained a Horticulture Certificate at the Canberra TAFE school, where she topped the course. This led to a job at the Australian National Botanic Gardens (then Canberra Botanic Gardens), where her duties included herbarium curation and assisting the horticultural staff by identifying and vouchering plants in the gardens. In the early days, all technical staff at ANBG were classified as 'Gardener', even if their duties were entirely indoors doing herbarium curation, horticultural stocktaking and record-keeping, education or outreach to the public.

Joan was a humble person but her quiet exterior concealed a very sharp mind, a passion for plants and a capacity for strong commitment. When I was appointed as a botanist in the herbarium in 1975, she was one among several staff with a Horticulture

Certificate, who had considerable botanical knowledge and technical ability but were limited by their 'Gardener' classification. These people carried the main burden of herbarium curation, identification and record-keeping for the gardens, which in those pre-database days required updating of large book-registers by hand. A fairer and more

realistic career structure came only later, and then Joan was able to enter the technical stream and receive equal pay with male colleagues. I encouraged those with a botanical bent to become involved in taxonomic research and they included Joan, Ian Telford and Doug Verdon. All three contributed to Flora projects, such as the *Flora of Central Australia* and *Flora of Australia*. (Ian went on to complete a PhD at the University of New England and is still working there with Jeremy Bruhl.) Joan worked mainly with me on the egg-and-bacon peas (Fabaceae) but her interests later

extended to Pittosporaceae. With my support, she undertook a full revision of *Chorizema* and published the monograph in *Australian Systematic Botany* in 1992. We also brought out a popular account in *Australian Plants* in 1993. Her work was thorough, meticulous and of high quality, and her taxonomy stands unchanged today.

According to Rosanne, the family went camping at the coast during summer holidays but Joan declared that she hated camping.



Fig. 1. Joan Taylor. Photo taken at her daughter Rosanne's graduation.



Perhaps this was a result of having to carry out household duties such as cooking and cleaning up under suboptimal conditions. Whatever the reason, Joan came to love field work when she got the opportunity with her job at ANBG. She participated in major field trips to several parts of Australia, especially Western Australia (see list below). However, there was one episode that probably brought back the horrors of her family camping trips. We were in northern NSW and heading up to Armidale from the coast. Under-estimating the time required to drive the long, narrow, winding road, we arrived on the New England tableland as it was getting dark. There was a thick fog and it was drizzling heavily, with almost no visibility (sometimes called 'scotch mist'), so we decided to stop and to set up camp as soon as possible. Seeing a sign to Bakers Creek Falls, we turned left and found ourselves in a level area, so we decided to camp there and then. Somehow, we managed to get the tent erected (it was windy, too) but got saturated in the process. Huddling miserably inside, we cooked our dinner and went to bed. In the morning the weather was clear and, stepping outside, we were shocked to discover that we were right on the edge of a massive cliff. Luckily neither of us had attempted to find a loo in the night! Nevertheless, Joan relished the opportunities to travel into remote and beautiful parts of Australia that her job afforded. She collected more than 2,600 specimens in her career.

On one of her field trips to Western Australia (with horticulturist Peter Ollerenshaw in 1983), Joan discovered a strange little plant along a remote, rough track between Israelite Bay and Mt Ragged. The plant had a single erect, tubular flower nestled within a rosette of silky grey leaves and appeared to be an annual. There were multiple such rosettes and careful excavation revealed them to be connected by a subterranean network of slender rhizomes (Fig. 2). The plant's identity was a puzzle but, back in the herbarium, we worked out that it belonged to the Pittosporaceae, despite its unique growth habit. We eventually described and named it as *Bentleya diminuta* (Crisp & Taylor, 1990).

I moved to ANU in 1990 and, after a series of changes in direction at the Gardens,

Joan retired. After retirement, she travelled widely in Australia, including the interior and far north, as well as all over the world. In Rosanne's words, she treasured her independence. Unfortunately, she developed Parkinson's disease, which she battled for a long time but eventually passed away in October this year.

### Acknowledgements

Thanks to Rosanne Taylor for supplying details on Joan's life outside ANBG, to Ian Telford for checking a draft of this article, and to Cheryl Backhouse for scanning the drawing of *Bentleya diminuta*.

### Major field trips

South-west Western Australia, September–October 1979, with Mike Crisp & Ron Jackson.  
Kozsciusko National Park, January–February 1981, with Julia Rymer, Barry Hadlow & Ron Jackson.  
South-west Western Australia, September 1983, with Peter Ollerenshaw (828 specimens).  
Northern NSW, October–November 1984, with Mike Crisp.  
Central and far north Queensland, September 1991.

### Taxa named

#### Fabaceae

*Chorizema* sect. *Parviflores* J.M. Taylor & Crisp (1992)  
*C.* sect. *Hirtistylis* J.M. Taylor & Crisp (1992)  
*C. axillare* subsp. *laxum* J.M. Taylor & Crisp (1992)  
*C. carinatum* (Meisn.) J.M. Taylor & Crisp (1992)  
*C. circinale* J.M. Taylor & Crisp (1992)  
*C. obtusifolium* (Sweet) J.M. Taylor & Crisp (1992)  
*C. racemosum* (Meisn.) J.M. Taylor & Crisp (1992)  
*C. spathulatum* (Meisn.) J.M. Taylor & Crisp (1992)  
*C. ulotropis* J.M. Taylor & Crisp (1992)  
*Mirbelia granitica* Crisp & J.M. Taylor (1987)  
*M. rhagodioides* Crisp & J.M. Taylor (1987)  
*M. stipitata* Crisp & J.M. Taylor (1987)

#### Pittosporaceae

*Bentleya diminuta* Crisp & J.M. Taylor (1990)

### Publications

Crisp MD, Taylor JM. 1987. Notes on *Leptosema* and *Mirbelia* (Leguminosae: Papilionoideae) in Central Australia. *Journal of the Adelaide Botanic Gardens* 10: 131–143.  
Crisp MD, Taylor JM, Bennett EM. 1989. Pittosporaceae – an old east Gondwanan family. Australian Systematic Botany Society Symposium and Forum, Sydney, Australia, 28–30 June 1989. *Plant Systematics in the Age of Molecular Biology and Gondwanan Elements in*

the Australian Flora, Program and Abstracts.

Crisp MD, Taylor JM, Bennett EM. 1989. Pittosporaceae – an old east Gondwanan family? *Australian Systematic Botany Society Newsletter* 60: 20.

Crisp MD, Taylor JM. 1990. A new species of *Bentleya* E. Bennett (Pittosporaceae) from southern Western Australia. *Botanical Journal of The Linnean Society* 103: 309–315.

Crisp MD, Taylor JM. 1993. *Chorizema*. *Australian Plants* 17: 100–126.

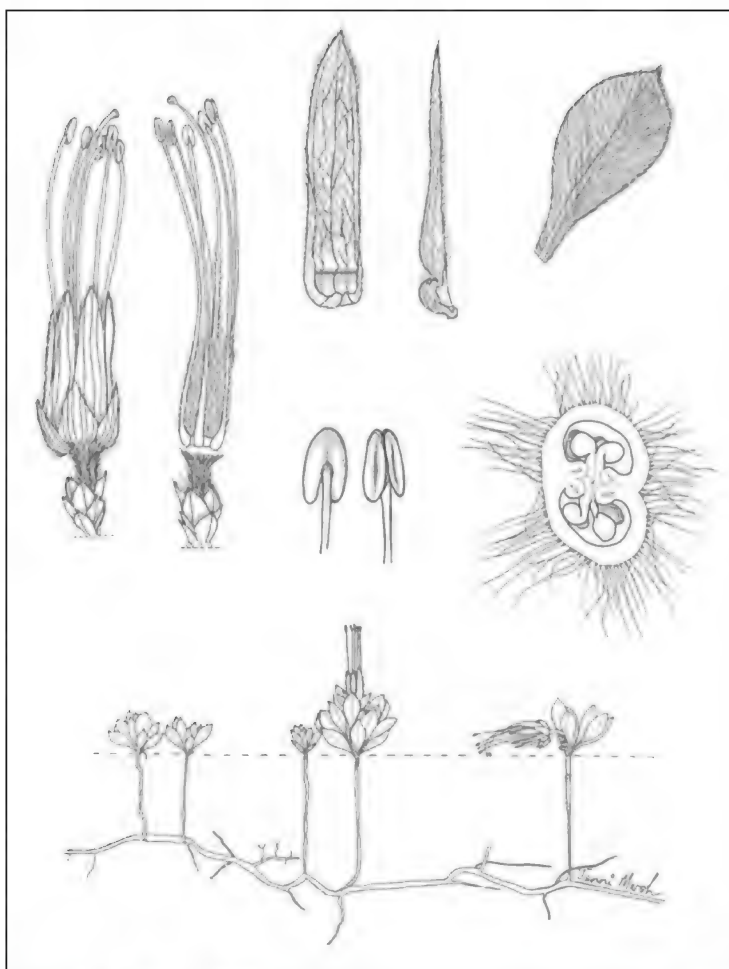
Meredith LD, Crisp MD, Taylor JM. 1990. *Chorizema varium*: an extinct Australian species. *The Plantsman* 11: 246–250.

Taylor, JM. 1983. *Swainsona*. In: *Flora of Central Australia*, ed. J. Jessop. pp. 161–166. A.H. & A.W. Reed, Sydney.

Taylor JM, Crisp MD. 1992. A revision of *Chorizema* (Leguminosae: Mirbelieae). *Australian Systematic Botany* 5: 249–335.

Fig. 2. *Bentleya diminuta* Crisp & J.M. Taylor.

Drawing by Jenni Marsh



## Deaths

### Jan-Frits (JeF) Veldkamp (1941–2017)

It was sad to see that Jan-Frits Veldkamp passed away in November at the age of 76. JeF, as he always introduced himself in English speaking countries [because he believed no Englishman could pronounce his name], was associated with the Leiden herbarium for more than 50 years and was still heavily involved in work on Malesian grasses and maintaining an interest in nomenclature. He was also known to many through his long-time editing of the *Flora Malesiana Bulletin* (from 1983). Evidence that he was busy until the end is seen in the account of his visit to Singapore in September in association with his work for the *Flora of Singapore* project (Web ref. 1).

An obituary will be published in *Blumea*

but in the meantime you can get some idea of the range of his activities and his already copious published output up until 2012 on the *Grassworld* page (Web ref. 2) of his fellow agrostologist, the late Bryan Simon. He touched many lives, including those of many Australian botanists in different ways; for instance, our initial introduction was through his and Dries Touw's involvement in the joint Lae and Leiden Herbaria expedition to the Star Mountains in Papua New Guinea in 1975.

#### Web references

- 1: <https://lkenhm.net/2017/09/15/visiting-scientist-feature-dr-jan-frits-veldkamp/>
- 2: <http://grassworld.myspecies.info/en/content/veldkamp>

## W.R. (Bill) Sykes (1927–2018)

William Russell Sykes, ONZM, FMLS, was born at Walsham-le-Willows, Suffolk, on 13<sup>th</sup> Oct 1927. He died at Nurse Maude Hospice, Christchurch NZ on 5<sup>th</sup> Jan 2018.

Bill was formerly a botanist at the Department of Scientific and Industrial Research (DSIR) Botany Division at Lincoln (now the Allan Herbarium, Manaaki Whenua Landcare Research). He previously published Floras of Niue (1970) and the Kermadec Islands (1977). He was a co-author of the 1988 *Flora of New Zealand* series volume on naturalised plants of New Zealand and contributed the section on bamboos to the New Zealand grass *Flora* in 2000. He is well known for his botanical work in Nepal.

Bill first visited the Cook Islands in 1974, followed by eight later visits to research the Cook Islands flora. *Flora of the Cook Islands* was written by Bill in his retirement and published in 2016.

We've recently included in these pages a lovely photo of Bill and the Cook Island *Flora* and another of the appreciative Allan Herbarium staff and Cook Island representatives (Barker 2016).

### Reference

Barker, R.M. (2016). New books. *Flora of the Cook Islands. Australasian Systematic Botany Society Newsletter* 167: 65–66. <http://www.asbs.org.au/newsletter/pdf/16-june-167.pdf#page=67>

From an email from Ilse Breitwieser

## News

### Happy birthday to Paul Wilson

Congratulations to botanical guru Paul Wilson who reached another milestone this month. Paul celebrated his 90<sup>th</sup> birthday on 2<sup>nd</sup> January. A ceremony in late May 2017 marked Paul's retirement from activities in the WA Herbarium (Wege 2017).

### Reference

Wege J. (2017) News from the West. *Australasian Systematic Botany Society Newsletter* 171: 30–31.

### Salt and vinegar *Triodia*

Further to the mention of Ben Anderson's work on *Triodia* in the last issue was the publication of eight new species of *Triodia* in the *T. basedowii* complex by Ben, Kevin Thiele and Matt Barrett in October 2017. ABC News coverage of the paper in November (web ref. 1) head-lined with a reference to the fact that one of the new species, *T. scintillans*, produces sparkly droplets that taste like salt and vinegar-flavoured chips. No mention of this taste was made in the paper even though the characteristic of producing such sparkly droplets is shared by two closely related species. Is this another way of distinguishing between the two?

Possibly of more interest to botanists is the fact that one of the new species has been named for long-time botanical stalwart of the Pilbara region, Stephen van Leeuwen, and

for another, *T. birrilburu* B.M.Anderson, the name was chosen by the traditional owners of the land where it occurs. You can learn more about Birrilburu, proclaimed as an Indigenous Protected Area in April 2013, at Web ref. 2.

### References

Anderson B.M., Thiele, K.R. & Barrett, M.D. (2017). A revision of the *Triodia basedowii* species complex and close relatives (Poaceae: Chloridoideae). *Australian Systematic Botany* 30(3): 197–229. <https://doi.org/10.1071/SB17011>  
Web ref. 1: [www.abc.net.au/news/2017-11-13/salt-and-vinegar-chips-flavour-spinifex-discovered-by-scientists/9140054](http://www.abc.net.au/news/2017-11-13/salt-and-vinegar-chips-flavour-spinifex-discovered-by-scientists/9140054)  
Web ref. 2: <https://www.centraldesert.org.au/program-region-item/birrilburu/>

### A botanical trifecta and more

Anyone who has published a book would know that it involves a lot of work. To have two published in one year (Wilson 2017) is an awful lot of work. To have three published within four months is an astounding effort. David Mabberley achieved just this last year with the launch of a third book, *Painting by Numbers: The Life and Art of Ferdinand Bauer* (reviewed elsewhere in this Newsletter), at a lavish function held in the Dixon Gallery at the State Library of New South Wales on November 16 (Fig. 1). The event, hosted by the President of the Library Council, The Hon. George Souris AM, Dr John Vallance the State



Fig. 1. Launch of David Mabberley's *Painting by Numbers* on Nov 16 2017 at the State Library of New South Wales. Ph. J. Clarkson



Librarian and Mr Peter Crossing AM of the Belalberi Foundation, was attended by over 350 dignitaries and invited guests.

Accompanying the launch of the book was the launch of a ground-breaking website designed and built by the State Library's DX Lab (Web ref. 1) with generous support from Peter and the late Sally Crossing's Belalberi Foundation. The web site brings together, for the first time online, nearly 300 original works by Ferdinand Bauer from cultural institutions across Europe, the United Kingdom and Australia. If three books were not enough to keep David fully occupied, he also researched and curated all the content for the web site and features in nine short videos discussing various aspects of selected works by Bauer. The web site is a perfect adjunct to the book and I encourage anyone with even a passing interest in Bauer, natural history painting or the Flinders expedition to have a look.

An exhibition of selected botanical drawings, maps and rare books related to Bauer's visit to Australia entitled *Botanical Inspirations* opened in the Amaze Gallery at the State Library of New South Wales on November 28 and will run until January 28. The library will also run a Bauer Illustration Workshop on January 19 and Bauer inspired workshops on watercolour painting for school groups (Web ref. 2) from January 2.

For the "Brownians" amongst us, this might be the final chance for a fix of things related

to the great man and his accomplices before Joseph Banks steals the limelight with the 250<sup>th</sup> anniversary of Cook's first voyage in 2019–20.

#### References

- Wilson, K. (2017). A botanical cornucopia.  
*Australasian Systematic Botany Society Newsletter* 172: 30–33.  
Web ref. 1. <https://paintingbynumbers.dxlabs.sl.nsw.gov.au/>  
Web ref. 2. [www.sl.nsw.gov.au/learning/watercolour-workshops-ferdinand-bauer](http://www.sl.nsw.gov.au/learning/watercolour-workshops-ferdinand-bauer)

John Clarkson

## Australian species causing havoc in a global biodiversity hotspot

The Blue and John Crow Mountains National Park in Jamaica is recognised as a UNESCO World Heritage site, but it is being overrun by the eastern Australian plant, *Pittosporum undulatum* Vent. (Web ref. 1). *P. undulatum* has form and is recorded as a weed in other parts of the globe such as South Africa and Hawaii, as well as in parts of Australia. It was first introduced to Jamaica in the late 1800s through the botanic gardens on the slopes of the Blue Mountains and birds and hurricanes have contributed to its spread. A forty year study (Bellingham et al. 2017) has documented that spread and suggestions are made for how it might be eliminated to protect the diversity of the area.

## References

- Bellingham, P.J., Tanner, E.V.J., Martin, P.H., Healey, J.R. & Burge, O.R. (2018). Endemic trees in a tropical biodiversity hotspot imperilled by an invasive tree. *Biological Conservation*, 2018; 217: 47–53. DOI: 10.1016/j.biocon.2017.10.028  
Web ref. <https://www.sciencedaily.com/releases/2018/01/180102103325.htm>

## Across the Ditch – from the Allan Herbarium Facebook page

### Found in the wild for the first time...

In 1987 a New Zealand liverwort described by Dame Ella Campbell<sup>1</sup> was found growing in a pot plant of a native composite, *Leptinella maniototo* (Petrie) D.G.Lloyd & C.J.Webb. The pot was part of a trial selection of *Leptinella* in Palmerston North for bowling green lawns. This was the only record of the liverwort, *Haplomitrium minutum* (E.O.Campb.) J.J.Engel & R.M.Schust., and its wild origin was unknown, the only possible clue being the distribution of *Leptinella maniototo*. Since that distribution involved the major part of the South Island and the Lake Wairarapa area of the North Island it was not particularly helpful.

Recently CHR botanist David Glenny found the liverwort growing in a small drain on Shands Road near Hornby, on the outskirts of Christchurch. The only problem is that the location will soon disappear as a result of road widening. At least it gives some clue to further localities and presumably an additional collection other than the type<sup>2</sup>.

## References

- Campbell, E.O. 1987: *Steereomitrium minutum* gen. et sp. nov. (Calobryales). *Memoirs of the New York Botanical Garden* 45: 569–574.  
Rapson, G.L. (2004). Obituary, *New Zealand Journal of Botany* 42: 695–708, DOI: 10.1080/0028825X.2004.9512921. <http://www.tandfonline.com/doi/pdf/10.1080/0028825X.2004.9512921>  
Web ref. 1: [http://nzpcn.org.nz/flora\\_details.aspx?ID=5103](http://nzpcn.org.nz/flora_details.aspx?ID=5103)

<sup>1</sup> After whom the Herbarium at Massey University is named. For a full account of the life of this remarkable lady, see Rapson (2004).

<sup>2</sup> Whether a type exists is not clear as the NZ Plant Conservation Network indicates that it was only known from cultivated material which was thrown out (Web ref. 1).

## A key for *Cotoneaster*...

David Glenny has been busy lately. His treatment of *Cotoneaster* for NZ (Web ref.), which covers 24 species and has a key, is bound to be of use in Australia as well, particularly as he has floral and fruiting differences in each lead.

Web ref. [www.nzflora.info/pdfs/](http://www.nzflora.info/pdfs/)

*FloraOfNewZealand-SeedPlants-4-Glenny-2017-Cotoneaster.pdf*

## Wanaka snot the same as Seattle slime?

Phil Novis of CHR is part of a successful bid for funding of research into the control of lake snot, otherwise known as the algae *Lindavia intermedia*. The algae which causes problems in many of New Zealand's freshwater lakes is now thought to have been introduced into New Zealand.

Web ref. <https://www.stuff.co.nz/environment/96827742/landcare-research-links-wanaka-snot-and-seattle-slime-wins-1-million-study-grant>

## QuestaGame, a conservation application helping to discover new species

Seven new species of spider have been discovered in Australia (Web ref. 1) as a result of *QuestaGame* (Web ref. 2 & 3), an app which feeds the data collected into the Atlas of Living Australia; *QuestaGame* is included as one of 544 Australian Citizen Science projects on the Atlas of Living Australia website (Web ref. 4). The game is competitive based on the submission of photos of animals, plants, fungi etc to receive points, extra points being gained if you can identify the photographed life form. Competitors can be individuals or groups, such as schools. It all sounds quite exciting but couldn't help noticing that so far it seems that only animals, and perhaps fungi, need apply to be photographed. Perhaps the plants aren't exciting enough, or maybe it is the preference for vouchers...or it could be that I have missed something on the pages concerned because of the slowness of my web browser at the moment.

There is a good review of *QuestaGame* by a user at Web ref. 5 and you can see examples of insects the reviewer has submitted to the game for identification at Web ref. 6.

## Web references

- 1: [www.abc.net.au/news/2018-01-05/seven-new-spider-species-discovered-by-gamers/9303710](http://www.abc.net.au/news/2018-01-05/seven-new-spider-species-discovered-by-gamers/9303710)
- 2: <https://questagame.com/home>
- 3: [www.abc.net.au/news/2017-05-28/kids-citizen-scientists-new-app-feed-aust-species-database/8557814](http://www.abc.net.au/news/2017-05-28/kids-citizen-scientists-new-app-feed-aust-species-database/8557814)
- 4: <https://biocollect.ala.org.au/acsa/project/index/b4c31748-46e5-42a9-b05e-1aff14fc9d28>
- 5: <https://mywildaustralia.wordpress.com/2016/04/23/experience-the-adventure-of-your-local-wildlife/>
- 6: <https://mywildaustralia.wordpress.com/tag/questagame/>

## Vascular plants of the Americas

Botanical exploration in the Americas has a history that stretches back for half a millennium, with knowledge assembled in diverse regional floras and lists. Ulloa Ulloa et al. [2017] present a comprehensive and integrated compilation of all known native New World vascular plant species. This compilation, in a publicly available, searchable database, includes 124,993 species—about one-third of the worldwide total. They further present details of the distribution of species across families and genera, the geographical foci of diversity, and the floristic relationships between regions. The rate of plant species discovery in the Americas averages almost 750 annually, so this valuable resource will continue to grow. [Abstract]

A background to this project is presented in the cited paper, while the 2500-page *Checklist of the Vascular Plants of the Americas* is available as a text document in its supplementary materials. The continuously updated and searchable database, *Vascular Plants of the Americas*, can be found on the Missouri Botanical Garden's *Tropicos* site

(Web ref. 1). A summary of the project is available on-line (Web ref. 2).

## References

Carmen Ulloa Ulloa, Pedro Acevedo-Rodríguez, Stephan Beck, Manuel J. Belgrano, Rodrigo Bernal, Paul E. Berry, Lois Brako, Marcela Celis, Gerrit Davidse, Rafaela C. Forzza, S. Robbert Gradstein, Omaira Hokche, Blanca León, Susana León-Yáñez, Robert E. Magill, David A. Neill, Michael Nee, Peter H. Raven, Heather Stimmel, Mark T. Strong, José L. Villaseñor, James L. Zarucchi, Fernando O. Zuloaga, Peter M. Jørgensen (2017). An integrated assessment of the vascular plant species of the Americas. *Science*, 2017; 358 (6370): 1614. DOI: 10.1126/science.aao0398.

Web ref. 1. <http://tropicos.org/Project/VPA>

Web ref. 2. <https://www.sciencedaily.com/releases/2017/12/171221143151.htm>

## A portable DNA barcoding lab for rapid identification launched

LAB-IN-A-BOX, a portable DNA barcoding lab developed by the International Barcode of Life (iBOL) was launched at the 7<sup>th</sup> International iBOL conference in Kruger National Park in South Africa in November 2017.

Unidentifiable bits of animals and plants can now be rapidly identified with a DNA barcoding field kit for a major impact on wildlife trafficking measures and invasive species control at ports of entry, as well as large-scale citizen science projects.

Its first use will be in South African ports of entry.

**Web ref.** University of Johannesburg (2017).

Tiger bones? Lion bones? An almost extinct cycad? On-the-spot DNA checks at ports of entry ... *ScienceDaily*, 20 November 2017. [www.sciencedaily.com/releases/2017/11/171120085428.htm](http://www.sciencedaily.com/releases/2017/11/171120085428.htm)

## Web pages of interest

### *Botany One*: news and views on plant biology and ecology

Probably the most interesting botanical site I have come across for some time – make sure you allow yourself time to browse it or you will find that several hours have been lost! It was mentioned on the ASBS Facebook page some

time ago by Chrissen Gemmill and so some of you will probably have already discovered it.

*Botany One* is a run by the Annals of Botany Company, a non-profit educational charity (Web ref.).

The aim of the site is to alert plant scientists around the world to interesting and topical



news about plants drawn from a wide variety of sources.

These sources include the two journals the company currently administers, the *Annals of Botany* (presently with a special issue on Morphology and Adaptation which is freely available until the end of January. Amongst others, it contains a paper on the phylogeny of the “orchid-like” *Utricularia* and one on the polyphyly of Arundinoideae (Poaceae) and the evolution of the hygroscopic twisted geniculate awn) and the open-access, online *AoB PLANTS*.

The series by Nigel Chaffey on the various ways in which unsuspecting animals ranging from primates, elephants, tortoises, lizards, iguanas and cockroaches are duped by plants into doing their sexual bidding has been entertaining. Suggestions for ways to tackle plant blindness (i.e. the much lower attention paid to plants than animals), the global distribution of *Pteris* (Pteridaceae), the plight of plant taxonomy and taxonomists in India, conservation in the city etc are just a few of the titles explored further. *Botany One* does produce a weekly email newsletter, *The Week in Botany*.

Web ref. <https://www.botany.one/>

## Communicating science

One of the articles in *Botany One* surrounded a visit to the third Sci Comm Camp (Web ref. 1) held outside Los Angeles in October 2017. Some key tips on communicating science, many of them well known (its implementing

them that can be the problem) are given here. In addition there is also some advice for those interested in making science communication their career. The next camp will be held in California in November 2018.

Want to hone your science writing skills or start a blog? *The Open Notebook* (Web ref. 2) is a web-page which “provides tools and resources to help science, environmental, and health journalists at all experience levels sharpen their skills” and is definitely worth a visit. There are interviews with those already established in the field and these cover a remarkable lot of experiences ranging from how to cover a scientific conference, writing book reviews, coping with the reporting of crises or disasters and retaining your emotional health, spotting dodgy statistics, becoming an advocacy journalist (or not), etc. They also have a book for sale, entitled *Science Blogging: The Essential Guide* (Yale University Press, 2016), written by practitioners in the field. Included on the website are brief summaries of each chapter of the book with a list of further helpful online resources.

## Web references

- 1: <https://www.botany.one/2017/11/communicating-science-sci-comm-career-advice-sci-comm-camp/>
- 2: <https://www.theopennotebook.com/>

# Items of interest

## World scientists' warning to humanity: a second notice

In 1992 the Union of Concerned Scientists and more than 1700 independent scientists, including the majority of living Nobel laureates in the sciences, published the “World Scientists' Warning to Humanity”. Twenty five years later this same group (Ripple et al., 2017), but this time with over 15,000 signatories from 184 countries, revisit their original warning and see what has changed in this time. Unsurprisingly their report card indicates only one positive

(stabilising the ozone layer) since 1992. For the rest there has been a general failure to make any improvements in any of the areas of concern, and many of them, such as climate change, deforestation, agricultural and marine production, fresh water supply, biodiversity etc., are showing undesirable trajectories, worse even than those expected in 1992. A copy of the original publication is available as a supplement to this second call for fundamental changes if we are to avoid drastic human-induced consequences to the biosphere.

## Reference

William J. Ripple, Christopher Wolf, Thomas M. Newsome, Mauro Galetti, Mohammed Alamgir, Eileen Crist, Mahmoud I. Mahmoud, William F. Laurance and 15,364 signatories from 184 countries; World Scientists' Warning to Humanity: A Second Notice, *BioScience*, bix125, <https://doi.org/10.1093/biosci/bix125>

## Citing

### Chinese and Iranian authors

In 2015 Ghahremaninejad et al. wrote a brief article in *Taxon* indicating that they had updated references to Iranian botanists in IPNI, raising the number mentioned from 17 to 190 and correcting a number of existing errors. They also documented some of the difficulties in transferring Persian names into Latin forms and encouraged "other botanical communities to improve the list of botanists from their region."

This year Chinese botanists (Deng et al (2017), building on some earlier papers such as Ma & Huang (2002) have responded to the call recognising the difficulties that Westerners, and Chinese, have in citing their names correctly. The difficulties are clearly explained in the text but it is in the supplementary tables of comparison of names in old spelling (inconsistently based on the Wade-Giles system of Romanizing Chinese names in the 20<sup>th</sup> century) and pinyin (Chinese derived system from the 1950s on) which best illustrates the problems faced. A must read for those dealing with Chinese authors in taxonomic literature.

## References

- Ghahremaninejad, F., Norouzi, M. & Edmondson, J. (2015). An improved list of Iranian authors. *Taxon* 64(5): 1078.
- Lingli, D., Shuai, L., Cheng, D., Jinshuang, M. & Boufford, D.E. (2017). Names of Chinese plant taxonomists – order out of chaos. *Taxon* 66(3): 782–783. DOI: <https://doi.org/10.12705/663.42>
- Ma, J.S. & Huang, Y.P. (2002). Options and errors in citing Chinese personal names. *Taxon* 51: 521–522.

### Further on multiple authors

It was predicted by Price (1963, p. 79) that "by 1980 the single-author paper will be extinct". From an analysis of research papers

published in the *Journal of Applied Ecology* since 1966, Barlow et al. have shown that in the 1960s 60% of articles had a single author, while in the past 10 years the number of such papers has declined to 4%. While the date may not be strictly correct the trend was correctly identified as was the predicted increase in the mean number of authors per published article over the same period of time.

There have been some other trends observed by the authors of this analysis. Papers submitted over the last 10 years were 2.5 times more likely to be accepted if they had 4 or more authors and these multi-authored papers also drew much higher citation rates.

## References

- Barlow, J., Stephens, P. A., Bode, M., Cadotte, M. W., Lucas, K., Newton, E., Nuñez, M. A. & Pettorelli, N. (2018). On the extinction of the single-authored paper: The causes and consequences of increasingly collaborative applied ecological research. *Journal of Applied Ecology* 55: 1–4. doi:10.1111/1365-2664.13040. <http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.13040/full>
- Price, D. J. de Solla (1963). *Little Science, Big Science...and Beyond*. (Columbia University Press: New York). [www.andreasaltelli.eu/file/repository/Little\\_science\\_big\\_science\\_and\\_beyond.pdf](http://www.andreasaltelli.eu/file/repository/Little_science_big_science_and_beyond.pdf)

### And more on the cost of access to academic journals

Keeping up with the theme of academic publication of freely provided research in journals which charge subscription fees for access, this time a study from a New Zealand University perspective. Here the total amount spent on the big 4 publishers by 7 New Zealand Universities in 2016 was around NZ\$21 million (AU\$19 million) per year. The author asks whether Open Access is the answer – his opinion: only if it is the right sort and abides by Fair Open Access Principles. If so, then savings of up to 75% can be expected.

**Web ref.** <https://theconversation.com/universities-spend-millions-on-accessing-results-of-publicly-funded-research-88392>

## Book reviews

### Awakening interest in Tasmania's rich algal flora

Review by R. N. Baldock  
State Herbarium of South Australia

#### **Marine Plants of Tasmania.**

*By Fiona J. Scott.*

*Tasmanian Museum and Art Gallery  
2017. 360 pages, descriptions of 169  
species by text and images.*

What a pleasure to review this book.

The numerous images within are remarkable compilations of habitat shots, close-ups and where necessary, beautiful, back-lit microscope pictures, which although they lack scales, make the features of species leap out of the pages. I am envious of their quality, having had to rely on pressed and preserved specimens when illustrating marine plants, which don't have the same impact. Fiona has relied solely on photographs for the visual side of identification, and I concur with that strategy. Line diagrams, particularly of micrographs, for all their apparent clarity and necessity in technical systematic works are, after all, human constructs with their own conventions that have to be learned to be understood fully. Sorry to be pedantic about this issue but I have some experience of present generations of students untrained in their interpretation, failing to make a connection between technical drawings of objects and what they see through the microscope.

The text accompanying the photographs for each species is concise, generally non-technical, and where some terms are unavoidably used, explanations in parentheses are often provided within the text,

avoiding the annoying necessity of frequently flipping to a glossary. Habitat information is sporadically included in a "Notes" section (together with taxonomic details): I would have preferred additional information such as range of depths and wave energies at which the plants grow. Taxonomic tangles, for example the use of *Ulva/Enteromorpha*, are explained without the usual (ponderous?) arguments and referencing found in scientific publications. Recent name changes follow AlgaeBase by Guiry & Guiry 2015–2017, the

generally accepted electronic taxonomic authority. Further resources (even a reference to this reviewer's website!) are provided for the reader whose enthusiasm to pursue their investigations has been aroused by Fiona's book.

There is a popular trend to expect common names for plants and animals to accompany binomials. Fiona has not followed this except for some of the large browns ("Crayweed", "Bull kelp", the introduced "Wakame") and "sea lettuce". I favour using them if they are descriptive of

form and shape, particularly as the book is for novice students and enthusiastic amateurs and this would help them familiarise species. (My favourite is "Snotweed", used for the brown filamentous algae, *Hincksia* spp that form foggy coats on larger brown algae towards the end of summer in South Australian gulf





waters.) I understand Edgar in his *Australian Marine Life* (2008, Reed New Holland, Sydney) was forced by his editor to provide “common” names for *all* his descriptions of species, and I think he may agree with me that some are not particularly helpful, as algae have notoriously convergent evolutionary trends leading to remotely related groups looking confusingly similar. Perhaps Fiona in a second edition might consider adding (creating?) just a few more “descriptive” colloquial names? Or, as a compromise, include the meanings of the Latin binomials which can be sometimes useful (for example, *Gloiosaccion* = “slimy bags”, a perfect description of fresh, not pressed, specimens of this genus). An increasing number of authors are including the etymology of binomials in their publications (for example *Focus on Flora*, 2017 Kersbrook Landcare Group<sup>1</sup>).

The question has to be asked, however, of all those currently publishing in Natural History – how does one compete with the electronic age of the internet that encourages a philosophy of “quick-fix” and instant gratification? Do we abandon hard copy for the more ubiquitous virtual ones? In the Foreword to Fiona’s book by Gerry Kraft I think he laments the decline of the illustrated works of the past:

... a tradition ... lapsed for some 150 years ...  
(now) reborn: the large format, full-colour  
rendition of species in works meant for the  
general public as well as specialists.

So, Fiona’s work is a glimpse into the colour, intriguing diversity and beauty of Tasmanian marine flora, not a field manual, more formal taxonomic treatise or instant snapshot of a species.

There must have been some hard decisions made on what to include in it (probably, more like what to *exclude*) from the hundreds of eligible species in this richly diverse region, and to reach a reasonable balance between illustrating the scope of the flora and inclusivity of major groups.

Common examples of the flora that are relatively large, morphologically recognisable, accessible and relatively easily investigated have been chosen. One notable exception is

*Ochmapexus* (= “holdfast like a comb”: a name like that certainly needs translation). This is minute and attached to other algae, and, although sometimes numerous, requires microscope skills to appreciate it. However, I find its inclusion excusable because of its extraordinary shape. It is certainly an alga likely to excite interest in the novice and a good example of the secret world of algae hidden from the unaided eye.

But, how to collate and organise the selected species into a meaningful order? Alphabetical order by genera within major groups (green, red, brown algae and seagrasses) has its problems, and leads to some strange “bedfellows”. For example, *Spermothamnion cymosum*, “...scrappy filamentous tufts” (page 325) in the Wrangeliaceae, is followed by *Spongites hyperellus*, a coralline red alga that is “a stony ball-like plant ...” (page 327). Some workers group the coralline red algae together as their calcification renders them fairly easy to identify. Others have attempted to sort species into morphological groups (“filamentous”, “leafy”, “complex”, “turf”, for example) and Reef-Watch enthusiasts have used these terms for ecological monitoring studies. For a book intended to interest, introduce or reveal marine plants for the first time, rather than to necessarily instruct, this may not be such a problem. (Who remembers as a student flipping quickly through and visually matching their specimens with the images in a book rather than going through a systematic search?)

Fiona has ensured the validity of the names for illustrations by placing voucher specimens of the plants photographed in the Tasmanian herbarium, a practice that could well be followed by other authors of natural history, particularly of terrestrial plants. This enables any worker to check their accuracy, a key feature of the scientific method, raising the status of a publication. In this respect it would be interesting to investigate the specimens used for an image of *Griffithsia tege*s (page 255). A micrograph of a female plant appears to have been used. Fertile tetrasporangial specimens are preferable as they have more striking diagnostic features and would have clinched an identification. Although I did not check the accuracy of all material (I don’t have the expertise), I found a minor error which I can

<sup>1</sup> Details of this Adelaide region Florula are listed in *Austral. Syst. Bot. Soc. Newslett.* 171: 47 (2017).

communicate directly to Fiona in the hope she considers it for a second edition, as it does not affect the overall excellence of the current publication.

I would like to recommend *Marine Plants of Tasmania* to students and the general public. It is a beautifully produced, approachable

publication, introducing the remarkable marine plants of Australia's southern seas that have more endemism than the Great Barrier Reef, a feature which deserves greater recognition and appreciation. Fiona's book will certainly awaken interest in Tasmania's rich marine flora.

## Further insights into the life and art of Ferdinand Bauer

Review by Alex George, Kardinya, WA

### **Painting by numbers: the life and art of Ferdinand Bauer**

*By David J. Mabberley*

*New South Publishing, Sydney  
casebound, pp x, 246, 299 × 237 mm,  
ISBN 9781742235226  
RRP \$69.99*

Since 1976 we have had four books devoted to Ferdinand Bauer (Stearn & Blunt 1976, Norst 1989, Watts *et al.* 1997, Mabberley 1999), not to mention many papers. We have also had Walter Lack's massive volume on him and his two artist brothers (2015). So, what can another book add to those? Most obvious are a number of drawings and paintings that have not been published before. Many are field sketches, here shown beside the finished paintings. In conjunction with these Mabberley provides more discussion than we have had before of Bauer's working methods, how they developed, and how he worked in the field. The illustrations, chosen from all periods of his life, include flora, fauna and landscapes.

For those wanting a biography of Ferdinand—the Bauer most closely associated with Australia—this is the book to have. It describes his life, with a special focus on his artistic development from early childhood, through the years of honing his technique, his tour to the eastern Mediterranean with Humphrey Sibthorp, the first years in London, the *Investigator* voyage and years in New Holland, further years in London, then, after an absence of 28 years, return to spend his final years in his homeland. The account strikes a nice balance, allowing us to accompany Ferdinand through his life without going into detail that the average reader does not need.

While in general Bauer's technique allowed him to reconstruct his subjects quite faithfully,

in at least one instance it seems to have failed—his oft-reproduced painting of *Banksia coccinea*. Its striking inflorescence appears predominantly red but in fact that colour comes wholly from the styles. The perianth itself is greyish white, whereas Bauer painted it red in both the inflorescence and the individual flowers. Mabberley notes (p. 75) that Bauer's colour-coded sketch of the species was destroyed and one must wonder, did this happen before he returned to England and, if so, did his memory let him down?

The book is generally well designed but is let down by the cover. The important word NUMBERS is in outline only and almost disappears, not having the prominence that it should have for display on a shelf. Each chapter heading is designed similarly with the final word or subheading outlined. No doubt it reflects Ferdinand's technique of drawing an outline in the field and creating the painting later. Printed on thick paper the book weighs 1.875 kg. The large page size allows good reproduction of all illustrations. As a printing exercise it's interesting to compare the colours in the main painting used at the introduction to each chapter with the same one reproduced within the chapter on a differently coloured background. One example is noteworthy, further, as an example of how floral colours can be affected by light: *Andersonia sprengelioides*, painted from a plant grown (probably in a glasshouse) at Kew, has very pale flowers, the sepals cream, the corolla pale pink. In the brighter light in the wild the calyx is bright pink and the corolla usually blue.

An unusual touch in the design is the reproduction on the inside of the dust jacket of a pencil sketch, not captioned in the book but annotated 'Sicily', presumably in Bauer's

hand, and apparently *Nerium oleander*. On p. 28 there is a different version of the same drawing, with fewer colour numbers and different stains on the paper.

The derivations are given of some but not all generic and specific names. As in his *Plant-Book*, Mabberley uses the 'long-established' family names Leguminosae, Compositae, etc. Within the text there is no cross-referencing with the plates. Generally the latter are next or close to mentions in the text but some are several pages apart.

In this book the artist can glean much from studying the field drawings and comparing them with the completed paintings, while the botanist can also learn about the plants, their collection (many are relevant to Robert Brown's work) and, in some cases, their early cultivation. The plates include images of some of Bauer's collections, notably the now-extinct *Streblorrhiza speciosa* from Norfolk Island.

Mabberley says that 'it is better to leave the largely unadorned hard facts, such as they are, to speak for themselves', although occasionally he allows himself some suppositions such as pondering (p. 225) whether Bauer had a disfigurement that made him loath to be drawn. It's a pleasure to read an author who understands grammar and words. A rare lapse is describing (p. 113) the east side of the Gulf of Carpentaria as 'still very inaccessible'—a tautology, and surely, with modern means of transport, 'difficult of access' is a more appropriate descriptor.

I always feel some-what churlish about noting errors in books, but almost all have them,

including my own, but for the reader (and a later edition, should there be one) the more important may be noted. On 8 December 1801 the *Investigator* anchored in King George Sound not 'between 11 a.m. and 12 p.m.' but at 11 p.m. (quite a navigational feat, given that sunset would have been around 7.30, there was no moon and Flinders had only Vancouver's chart from 1791 for guidance). Lucky Bay was Bay I or Bay 1, not Bay 2 (p. 86). Cook, on the *Endeavour*, is given the rank of captain instead of lieutenant; he was promoted after his first circumnavigation. In

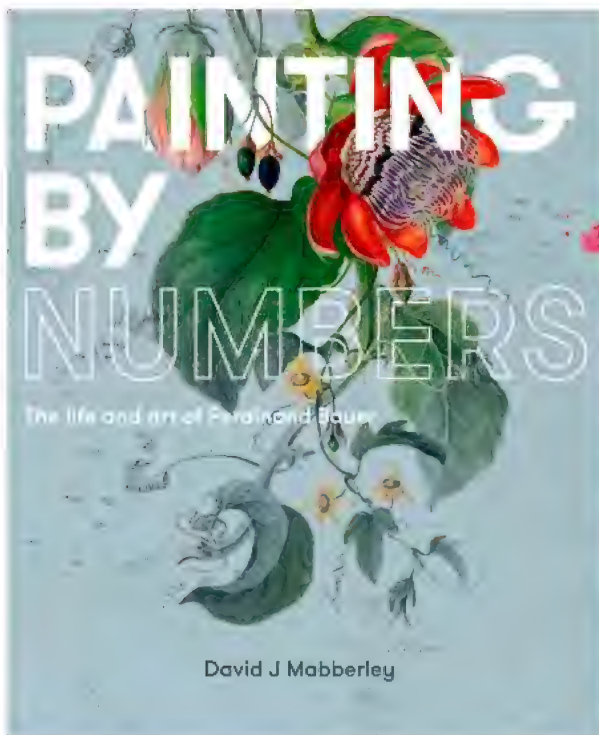
the comprehensive index, we have Nicholas instead of Nicolas Baudin (but it's correct in the text, p. 26). Stearn and Blunt's *The Australian Flower Paintings of Ferdinand Bauer*, Basilisk Press, 1976, is neither mentioned in the text nor cited in the bibliography.

As pointed out by Mabberley, despite the extensive research and writings about Ferdinand, in many respects we are still in the dark about the man himself. There is no known portrait, he

wrote almost nothing, and there are very few comments about him by his contemporaries. But this book provides a most satisfying account of arguably the best botanical artist the world has seen.

## References

- Mabberley, D.J. (1999), *Ferdinand Bauer: The Nature of Discovery*, Merrell Holberton Publishers, London, and The Natural History Museum, London.
- Norst, M.J. (1989), *Ferdinand Bauer: The Australian Natural History Drawings*, Lothian Publishing Co. Pty Ltd, Port Melbourne.
- Stearn, W.T. & Blunt, W. (1976), *The Australian*





*Flower Paintings of Ferdinand Bauer*, The Basilisk Press, London.  
Watts, P., Pomfrett, J.A. & Mabberley, D. (1997),  
*An Exquisite Eye: The Australian Flora & Fauna*

*Drawings 1801–1820 of Ferdinand Bauer*,  
Historic Houses Trust of New South Wales,  
Glebe.

## New publications

Members who wish to draw attention to books are welcome to do so. Note that the listing of books here does not preclude their being reviewed in the Book Review section.

Robyn Barker

### Books

#### **Plants of the World**

**By Maarten J. M. Christenhusz, Michael F. Fay, Mark W. Chase**

**Kew Publishing, 2017**

**800pp. over 2,500 colour photographs and illustrations, 500 maps. 280 x 238 mm. Hardback**

**ISBN 978 1 84246 634 6**

**[http://shop.kew.org/plants-](http://shop.kew.org/plants-of-the-world-an-illustrated-encyclopedia-of-vascular-plants?ga=2.26225277.1102492010.1511393415-784218777.1507091736)**

**[of-the-world-an-illustrated-](http://shop.kew.org/plants-of-the-world-an-illustrated-encyclopedia-of-vascular-plants?ga=2.26225277.1102492010.1511393415-784218777.1507091736)**

**[encyclopedia-of-vascular-plants?](http://shop.kew.org/plants-of-the-world-an-illustrated-encyclopedia-of-vascular-plants?ga=2.26225277.1102492010.1511393415-784218777.1507091736)**

**[ga=2.26225277.1102492010.1511393415-](http://shop.kew.org/plants-of-the-world-an-illustrated-encyclopedia-of-vascular-plants?ga=2.26225277.1102492010.1511393415-784218777.1507091736)**

**[784218777.1507091736](http://shop.kew.org/plants-of-the-world-an-illustrated-encyclopedia-of-vascular-plants?ga=2.26225277.1102492010.1511393415-784218777.1507091736)**

This is the first book to explore systematically every vascular plant family in the world, including all families of lycopods, ferns, gymnosperms and angiosperms, organised in a modern phylogenetic order. You can read more about the background to the book on the Kew blog (Web ref. 1) with a short review at Web ref. 2.

#### **Web references**

- 1: <https://www.kew.org/blogs/kew-science/six-continents-five-years-one-big-plant-book-0>
- 2: <https://reckless-gardener.co.uk/plants-of-the-world-a-new-encyclopedia/>

#### **The Lost Species. Great Expeditions in the Collections of Natural History Museums**

**By Christopher Kemp**

**University of Chicago Press, October 2017. 272 pp.**

**ISBN: 9780226386218 (HB), RRP \$60**

**AU; ISBN: 9780226386355 (ebook).**

**<http://press.uchicago.edu/ucp/books/book/chicago/L/bo24117880.html>**

Each year, scientists continue to encounter new species in museum collections—a stark reminder that we have named only a fraction of

the world's biodiversity. Sadly, some specimens have waited so long to be named that they are gone from the wild before they were identified, victims of climate change and habitat loss. As Kemp shows, these stories showcase the enduring importance of these very collections. [Publishers website]

It's preaching to the converted to talk about the new species found in biological collections, but here is a book which documents 25 such cases. Unfortunately for us the majority (22) of the cases are zoological, only one is botanical (the genus *Monanthotaxis*) while under "others" we have a chapter on fossils and another, rather strangely, but perhaps all will be explained, on "the Earliest Hominin<sup>1</sup> Engraving (a 500,000-Year-Old Shell)".

The contents of each of the chapters can be seen on the website and there is a review at web ref. 1 while Kemp's initial article on this topic can be seen at Web ref. 2.

#### **Web references**

- 1: <http://blogs.sciencemag.org/books/2017/11/06/the-lost-species/>
- 2: [www.nature.com/news/museums-the-endangered-dead-1.16942](http://www.nature.com/news/museums-the-endangered-dead-1.16942)

#### **The Genus *Araucaria*: An Illustrated Overview of its Species**

**By Hubertus Nimsch**

**Verlag Kessel: Remagen-Oberwinter.**

**2011 (German), 2013 (English edition)**

**241 pages, 318 colour photos, 52 b/w**

**line drawings, b/w distribution maps**

**ISBN-13: 9783941300637**

**Price cited as £77 at nhbs**

**(= c. \$AU135; \$NZ150)**

Bob Parsons suggested this book for the conifer lovers. It's been around for a while, having first been produced in German, the English translation being made available in 2013. Information about the book and its contents can be viewed at Web ref. 1, where it is also

<sup>1</sup> In case you also thought that the word used here should be "Hominid" see <https://australianmuseum.net.au/hominid-and-hominin-whats-the-difference>

possible to view sample pages and get a feel for the content. Nineteen species of *Araucaria* are covered in the book.

**Web ref. 1:** <https://www.nhbs.com/the-genus-araucaria-book>

**Call of the Reed Warbler: a New Agriculture – a New Earth**  
*By Charles Massy*  
*University of Queensland Press: St Lucia. September 2017*  
*ISBN 9780702253416 (Paperback); 9780702254734 (ePDF); 9780702254741 (ePub); 9780702254758 (Kindle)*  
*RRP \$39.95 (pbk); \$17:50 (ePDF); \$11:18 (ePub); \$8:73 (Kindle)*

The consensus seems to already be that this book will become a classic and there are a number of reviews already on the web, some of which are pointed to below (Web refs 1-4). One of them at least is more critical than the rest. Amazon and Google both have a preview of the book, enabling you to see the structure and read the first two chapters “Into the Anthropocene” and “Emergence of the Mechanical Mind” and parts of some of the subsequent chapters. If you live in Victoria and belong to the State Library then you can access it online. There are also interviews with the author available in the press (Web ref. 4) and on the radio (Web ref. 5)

## Reviews

**Web ref. 1:** <https://www.booksandpublishing.com.au/articles/2017/07/18/93409/call-of-the-reed-warbler-charles-massy-uqp/>

**Web ref. 2:** <https://www.australianbookreview.com.au/abr-online/current-issue/4282-tim-flannery-reviews-call-of-the-reed-warbler-a-new-agriculture-a-new-earth-by-charles-massy>  
(teaser only, subscription required)

**Web ref. 3:** [www.arlash.com/2017/12/06/review-of-call-of-the-reed-warbler-a-new-agriculture-a-new-earth-charles-massy-university-of-queensland-press-2017/](http://www.arlash.com/2017/12/06/review-of-call-of-the-reed-warbler-a-new-agriculture-a-new-earth-charles-massy-university-of-queensland-press-2017/)

**Web ref. 4:** [www.moffittsfarm.com.au/2017/11/30/call-of-the-reed-warbler-book-review/](http://www.moffittsfarm.com.au/2017/11/30/call-of-the-reed-warbler-book-review/)

**Web ref. 5:** <https://www.theguardian.com/environment/2017/sep/23/farmer-wants-a-revolution-how-is-this-not-genocide>

**Web ref. 6:** [www.abc.net.au/radionational/programs/latenightlive/a-rural-insurgency/9077312](http://www.abc.net.au/radionational/programs/latenightlive/a-rural-insurgency/9077312)

**Manuka: the biography of an extraordinary honey**  
*By Cliff Van Eaton*  
*Exisle Publishing Ltd: Auckland. 2014*  
*ISBN 978-1-77559-163-4*  
*Paperback, 256 pages. RRP \$35.00; \$6:47 (Kindle)*

Want to know more about that New Zealand honey and why it is known around the world. This history, published in 2014, is a good background and written by an experienced New Zealand beekeeper and consultant. The *Leptospermum* species from which bees are able to make this honey is also found in Australia and research is happening here as well (Web refs. 1, 2). Hopefully cooperation prevails rather than the present battle over naming rights (Web ref. 3).

## Web references

1. <https://theconversation.com/science-or-snake-oil-is-manuka-honey-really-a-superfood-for-treating-colds-allergies-and-infections-78400>
2. [www.sci-news.com/medicine/australian-manuka-honey-04502.html](http://www.sci-news.com/medicine/australian-manuka-honey-04502.html)
3. <https://www.sbs.com.au/news/not-so-sweet-australia-and-new-zealand-fight-for-manuka-honey-naming-rights>

## Downloadables

### *Guides to improving your science...*

There are four guides published by the British Ecological Society which can be freely downloadable from their website. While the guides are for those involved in Ecology and Evolution much of the information provided is equally applicable in Systematics since they cover Peer Review, Data Management, Getting Published and Reproducible Code.

**Web ref.:** [www.britishecologicalsociety.org/publications/guides-to/](http://www.britishecologicalsociety.org/publications/guides-to/)

### *ABRS report on systematics 2016*

The ABRs report *State of the science of taxonomy in Australia: results of the 2016 Survey of Taxonomic Capacity*, to which many of you would have contributed, can now be accessed and downloaded at the following address.

**Web ref.** [www.environment.gov.au/science/abrs/publications/other/taxonomy-survey-results-2016](http://www.environment.gov.au/science/abrs/publications/other/taxonomy-survey-results-2016)

**In hot water: the impacts of climate change on marine fisheries and biodiversity**

*Report of a Senate enquiry*

**6 December 2017**

**Commonwealth of Australia 2017**

**ISBN 978-1-76010-682-9**

An inquiry into the impact of climate change in the marine environment including the effect on fish stocks, marine biodiversity and ecosystems and the adequacy of protections for marine biodiversity and biosecurity measures and monitoring systems given current and projected climate change impacts.

**Web ref.** [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Environment\\_and\\_Communications/ClimateChangeOceans/Report](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/ClimateChangeOceans/Report)

**Risks to Australia's urban forest from climate change and urban heat. Clean Air and Urban Landscapes Hub National Environmental Science Program**

**November 2017**

**Downloadable from [https://www.nespurban.edu.au/publications-resources/research-reports/CAULRR07\\_RisksAustralianUrbanForest\\_Oct2017.pdf](https://www.nespurban.edu.au/publications-resources/research-reports/CAULRR07_RisksAustralianUrbanForest_Oct2017.pdf)**

This report was prepared to contribute to improved understanding and management of Australia's urban forests. It also contributes to satisfying the outputs for Clean Air and Urban Environments Hub subproject 3.4 "Assessing the vulnerability of Australian cities' green infrastructure to climate change".

Many of the trees presently planted in Australian cities are at risk from increasing temperatures due to climate change and urban heat islands. This report analyses the

risk across Australia to see how suited each tree species is to known temperature limits in current climates and to those predicted for the future. The results indicate that new species need to be introduced into cities now to ensure resilience and improve the sustainability of our cities.

## Conference proceedings

### *Joint ASBS/SASB conference*

For those of you who were unable to attend the recent conference in Adelaide the abstract booklet is available on-line.

**Web ref.** <https://systematics.ourplants.org/news/abstract-book-to-download/>

### *Australian Rangeland Society conference*

The 19<sup>th</sup> Biennial Conference of the Australian Rangeland Society was held in Port Augusta, South Australia from 25-28 September 2017 and explored the issue of how to live sustainably in the rangelands – now and into the future – sharing their ideas and experience of the challenges and opportunities facing our rangeland environments, industries and communities during a time of significant change. The programme and abstract booklet can be accessed at Web ref. 1, but short, more informative summaries of the papers can also be seen at Web ref. 2 (see for instance M.H. Friedel's paper on how some weeds have arrived as stowaways).

### **Web references**

- 1: [https://www.austrangesoc.com.au/data/ARSC2017/ARSC2017\\_Abstract\\_Booklet.pdf](https://www.austrangesoc.com.au/data/ARSC2017/ARSC2017_Abstract_Booklet.pdf)
- 2: <https://www.austrangesoc.com.au/pages/19th-biennial-conference-papers-2017.html>

Robyn Barker

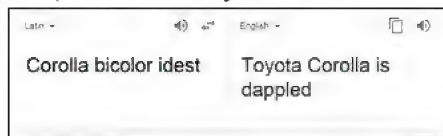
## Identification slips

### Roman technology ahead of its time?

I find Google's translation facility useful to give some alternative slants (not necessarily

correct ones) when struggling with difficult sentences in various languages. Can it be used as a historical research tool? This experience goes a long way to answering that question.

WRB





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<b>AD</b> tel: (+618)/(08) 8222 9307 fax: (+618)/(08) 8222 9353 <a href="http://www.environment.sa.gov.au/Science/Science_research/State_Herbarium">www.environment.sa.gov.au/Science/Science_research/State_Herbarium</a>	<b>HO</b> tel: (+613)/(03) 6226 2635 fax: (+613)/(03) 6226 7865 <a href="http://www.tmag.tas.gov.au/collections_and_research/tasmanian_herbarium">www.tmag.tas.gov.au/collections_and_research/tasmanian_herbarium</a>	<b>MEL</b> tel: (+613)/(03) 9252 2300 fax: (+613)/(03) 9252 2350 <a href="http://www.rbg.vic.gov.au/science/herbarium-and-resources">www.rbg.vic.gov.au/science/herbarium-and-resources</a>	<b>NSW</b> tel: (+612)/(02) 9231 8111 email: <a href="mailto:feedback@rbgsyd.nsw.gov.au">feedback@rbgsyd.nsw.gov.au</a> <a href="http://www.rbgsyd.nsw.gov.au">www.rbgsyd.nsw.gov.au</a>
<b>CANB</b> tel: (+612)/(02) 6246 5108 fax: (+612)/(02) 6246 5249 <a href="http://www.anbg.gov.au/">www.anbg.gov.au/</a>	<b>BRI</b> tel: (+617)/(07) 3896 9321 fax: (+617)/(07) 3896 9624 <a href="http://www.qld.gov.au/environment/plants-and-animals/plants/herbarium/">www.qld.gov.au/environment/plants-and-animals/plants/herbarium/</a>	<b>DNA</b> tel: (+618)/(08) 8999 4516 fax: (+618)/(08) 8999 4527 <a href="http://lrm.nt.gov.au/plants-and-animals/herbarium">http://lrm.nt.gov.au/plants-and-animals/herbarium</a>	<b>PERTH</b> tel: (+618)/(08) 9219 8000 fax: (+618)/(08) 9334 0327 <a href="http://dbca.wa.gov.au/plants-and-animals/wa-herbarium">http://dbca.wa.gov.au/plants-and-animals/wa-herbarium</a>
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<b>WELT</b> tel: (+644)/(4) 381 7261 fax: (+644)/(4) 381 7070 <a href="http://collections.tepapa.govt.nz/">http://collections.tepapa.govt.nz/</a>	<b>Australian University Herbaria</b> Contact CHAH representative: Frank Hemmings University of New South Wales email: <a href="mailto:f.hemmings@unsw.edu.au">f.hemmings@unsw.edu.au</a>	<b>ABRS</b> tel: (+612)/(02) 6250 9417 fax: (+612)/(02) 6250 9555 email: <a href="mailto:abrs@environment.gov.au">abrs@environment.gov.au</a> <a href="http://www.environment.gov.au/science/abrs">www.environment.gov.au/science/abrs</a>	<b>Council of Heads of Australasian Herbaria (CHAH)</b> Chair: Prof. Michelle Waycott (AD). email: <a href="mailto:Michelle.Waycott@sa.gov.au">Michelle.Waycott@sa.gov.au</a> <a href="http://www.chah.gov.au">www.chah.gov.au</a>

## The Society

The Australasian Systematic Botany Society is an incorporated association of over 300 people with professional or amateur interest in botany. The aim of the Society is to promote the study of plant systematics.

### Membership

Membership is open to all those interested in plant systematics. Members are entitled to attend general and chapter meetings, and to receive the Newsletter. Any person may apply for membership by filling in a "Membership Application" form, available on the Society website ([www.asbs.org.au](http://www.asbs.org.au)), and forwarding it, with the appropriate subscription, to the Treasurer. Subscriptions become due on 1 January each year.

The ASBS annual membership subscription is AU\$45; full-time students \$25. Payment may be by credit card or by cheques made out to Australasian Systematic Botany Society Inc., and remitted to the Treasurer. All changes of address should be sent directly to the Treasurer as well.

## ASBS publications

### Australasian Systematic Botany Society Newsletter

#### Back issues

Back issues of the Newsletter are available from Number 27 (May 1981) onwards, excluding Numbers 29, 31, 60, 84–86, 89–91, 99, 100, 103, 137–139, and 144. Here is the chance to complete your set.

**Cost:** Free

#### *Australian Systematic Botany Society Newsletter No. 53* **Systematic Status of Large Flowering Plant Genera**

Edited by Helen Hewson, 1987

This Newsletter issue includes the reports from the February 1986 Boden Conference on the "Systematic Status of Large Flowering Plant Genera". The reports cover: the genus concept; the role of cladistics in generic delimitation; geographic range and the genus concepts; the value of chemical characters, pollination syndromes, and breeding systems as generic determinants; and generic concepts in the Asteraceae, Chenopodiaceae, Epacridaceae, *Cassia*, *Acacia* and *Eucalyptus*.

**Cost:** Number 53: \$5, plus \$1.75 postage (in Australia)

Cheques payable to "ASBS Inc." Mastercard & Visa payments accepted.

**For back issues of the newsletter ONLY, contact:**

Anna Monro  
ASBS Sales  
Australian National Botanic Gardens  
GPO Box 1777  
Canberra, ACT 2601, Australia

Emailing is preferred means of contact, but alternatively fax credit card details to:

Anna Monro Fax: (+61)/(0) 2 6250 9599

Enquiries: [anna.monro@environment.gov.au](mailto:anna.monro@environment.gov.au) Tel: (+61)/(0) 2 6250 9530

### **Evolution of the Flora and Fauna of Arid Australia (book)**

Edited by W.R. Barker & P.J.M. Greenslade.

Peacock Publications, ASBS & ANZAAS, 1982

This collection of more than 40 papers will interest all people concerned with Australia's dry inland, or the evolutionary history of its flora and fauna. It is of value to those studying both arid lands and evolution in general. Six sections cover: ecological and historical background; ecological and reproductive adaptations in plants; vertebrate animals; invertebrate animals; individual plant groups; and concluding remarks.

**Cost:** \$20, plus \$10 postage (in Australia).

This book is almost out of print. There are a few remaining copies.

To order a copy of this book email Bill Barker at: [bill.barker@sa.gov.au](mailto:bill.barker@sa.gov.au)

### **History of Systematic Botany in Australasia (book)**

Edited by P.S. Short. A4, case bound, 326 pp. ASBS, 1990

No longer available



## Australasian Systematic Botany Society Newsletter

The Newsletter keeps ASBS members informed of Society events and news, and provides a vehicle for debate and discussion. In addition, original articles, notes and letters (not exceeding ten published pages in length) will be considered.

Every effort is taken to distribute the Newsletter quarterly; delays or rare combined issues are attributable usually to the availability of the Editors who act in a voluntary capacity rather than to lack of copy. As soon as possible after compilation of each issue a searchable pdf version (in full colour) is placed on the Society web site and announced to members by email, and printed copy (in grey scale) is produced and distributed to members who have requested it.

Citation: abbreviate as *Australas. Syst. Bot. Soc. Newslett.*

### Instructions to contributors

Send copy to an Editor preferably by email attachment submitted as an MS Word (.doc or docx) or Rich-text-format (.rtf) file. We accept handwritten or typescripts by letter or fax but the associated extra editorial work may cause delay in publication. Copy is created using Adobe Creative Suite (CS3) before transfer to pdf for publication.

**Deadline for copy** is nominally the last day of February, May, August and November.

**Formatting of submitted copy.** Please use Word document formatting for paragraph indents, bullets, etc. and for tables. Avoid tabs (since these alter in transfer to editing software). *All text must be in upper and lower case* including in titles, headings or authors in reference lists. Express *emphasis* in italics, not in bold or capitals. If embedding tables or references or other objects from Excel, bibliographic software, etc. ensure that these are converted to Word tables or paragraphs. We do ask for consistency in formatting approach within each submitted item and adoption of the following specifically. Letters in *abbreviations of Australian States* (SA, WA, etc., but Vic., Qld) and organisations and degrees (e.g. ASBS, ABRS, PhD) should not be separated by full-stops. In personal names leave a space between initials and surname (e.g. W.R. Smith or WR Smith), but use standard taxonomic author abbreviations, including omission of such spaces (e.g. R.Br., not R. Br.). We prefer months to be contracted to the first three letters (e.g. Jan, Feb, Mar), but not if the month stands alone in a sentence. Use an en dash (–) in ranges of numbers and dates (pp. 22–24, 1–2 Jul, May–Aug).

**Providing hyperlinks and DOIs.** The on-line version of the Newsletter is now enhanced with active hyperlinks to references on the Web. To ensure this in their contributions, authors should include the URLs of these links (*but do not hide them behind text*). The Editors will not undertake to do this work for you, but will check links provided are active (and therefore accurate) for the on-line pdf.

**Images.** Images are welcomed but inclusion may depend on space being available. Image enhancement, composites and, if unavoidable, lettering, are done by the Editors in laying out and checking the text. Do not embed images in the document file; if you do, you will be asked for them separately, causing delay and extra work for you. *Send images individually as .jpg files. Resolution of 700 Kb and no more than 1–1.5 Mb* for individual .jpg images suits both press and on-line publication. (Please note that uncompressed files such as *tiff* or *.bmp* need to be very much larger in size. You will clog up our mailboxes if you use these; however, a DropBox link is acceptable). *Provide captions with name of photographer and, where different, copyright owner as a separate text file or appended to the article itself.*

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**Flyers** may be approved for inclusion in the envelope for products or services of interest to ASBS members. The current fee is \$200 per flyer, plus the cost of inserting them (usually roughly \$50). Flyers are not part of the Newsletter and do not appear with the Newsletter on the ASBS Website.

A 20% discount applies for second and subsequent entries of the same advertisement. Advertisements from ASBS members are usually exempt from fees but not the insertion costs in the case of a flyer.

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## Contents

### ASBS Inc. business

In this issue	1
The new ASBS Council	1
New Year actions for members	1
<i>Notice: 2018 Membership Fees</i>	1
Australasian Systematic Botany Society Inc.: Minutes of Annual General Meeting 2017	2
Appendix 1. ASBS President's report	4
Appendix 2. ASBS Treasurer's report, 2016/17	6
Financial report	11
<i>Notice: Hansjörg Eichler Research Grants</i>	15
Appendix 3. ASBS Newsletter report	16
Appendix 4. ASBS Web Pages report	16
Appendix 5. ASBS Facebook Group report	17
Appendix 6. ASBS Research Committee report	17

### Conference reports

<i>Systematics 2017: Integrating Systematics for Conservation and Ecology –</i> ASBS/SASB Conference, University of Adelaide, November 26–29 2017	19
--	----

### Eichler Research Fund reports

Molecular systematics of the New Caledonian Cryptocaryae (Lauraceae).	23
Morphology of syntypes of the Australian resurrection grass, <i>Tripogon loliiformis</i> (Poaceae: Chloridoideae)	25

### Points of view

Virtual attendance at Nomenclatural session of IBC?	28
100 articles every ecologist should read	28
<i>Washington Post</i> debate.	29
A world without glyphosate	29

### ABRS report

<i>Notice: Decadal Plan for Taxonomy and Biosystematics:</i> <i>Call for comment on Exposure Draft by January 31<sup>st</sup></i>	30
--	----

### Obituary

Joan Margaret Taylor, 1929–2017.	31
----------------------------------	----

### Deaths

Jan-Frits (JeF) Veldkamp (1941–2017).	33
W.R. (Bill) Sykes (1927–2018)	34

### News

Happy birthday to Paul Wilson	34
Salt and vinegar <i>Triodia</i>	34
A botanical trifecta and more	34
Australian species causing havoc in a global biodiversity hotspot.	35
Across the Ditch – from the Allan Herbarium Facebook page	36
Found in the wild for the first time...	36
A key for <i>Cotoneaster</i> ...	36
Wanaka snot the same as Seattle slime?	36
<i>QuestaGame</i> , a conservation application helping to discover new species	36
Vascular plants of the Americas	37
A portable DNA barcoding lab for rapid identification launched	37

### Web pages of interest

<i>Botany One</i> : news and views on plant biology and ecology	37
Communicating science	38

### Items of interest

World scientists' warning to humanity: a second notice	38
Citing Chinese and Iranian authors	39
Further on multiple authors	39
And more on the cost of access to academic journals	39

### Book reviews

Awakening interest in Tasmania's rich algal flora.	40
Further insights into the life and art of Ferdinand Bauer	42

### New publications

Books	44
Downloadables	45
Conference proceedings	46

### Identification slips

Roman technology ahead of its time?	46
-------------------------------------	----

### Chapter conveners

	47
--	----

### Contacting major Australasian herbaria and systematics institutions.

	47
--	----

### About the Society and becoming a member

	48
--	----

### ASBS publications

	48
--	----

### About the Newsletter: contributions, advertisements and the Editors.

	49
--	----